



# 中华人民共和国国家标准

GB/T 10345—2007  
代替 GB/T 10345.1~10345.8—1989

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## 白酒分析方法

Method of analysis for Chinese spirits

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## 前 言

本标准是对 GB/T 10345.1—1989《白酒试验方法总则》、GB/T 10345.2—1989《白酒感官评定方法》、GB/T 10345.3—1989《白酒中酒精度的试验方法》、GB/T 10345.4—1989《白酒中总酸的试验方法》、GB/T 10345.5—1989《白酒中总酯的试验方法》、GB/T 10345.6—1989《白酒中固形物的试验方法》、GB/T 10345.7—1989《白酒中乙酸乙酯的试验方法 气相色谱法》、GB/T 10345.8—1989《白酒中己酸乙酯的试验方法》的修订。

本标准代替 GB/T 10345.1~10345.8—1989。

本标准与 GB/T 10345.1~10345.8—1989 相比主要变化如下：

- 将 GB/T 10345.1~10345.8—1989 八项标准整合为一项标准；
- 增加了乳酸乙酯、丁酸乙酯、丙酸乙酯、正丙醇、 $\beta$ -苯乙醇、3-甲硫基丙醇、二元酸(庚二酸、辛二酸、壬二酸)二乙酯七个分析方法；
- 酒精度的测定增加了对冷却水温度和沸腾后蒸馏时间的规定；
- 气相色谱法中的色谱柱增加了毛细管柱，色谱条件和分析步骤作了相应的修改；
- 总酸的测定增加了第二法电位滴定法；
- 总酯的测定将电位滴定法的指示终点作了调整；
- 附录 A“不同温度下酒精溶液相对密度与酒精度对照表”根据国际分析化学家学会(AOAC)的分析方法进行了修改；
- 附录 B“温度 20℃时酒精计浓度与温度换算表”根据“1990 年国际温标国际酒精表”进行了修改。

本标准的附录 A 和附录 B 为规范性附录。

本标准由全国食品工业标准化技术委员会酿酒分技术委员会提出并归口。

本标准起草单位：中国食品发酵工业研究院、泸州老窖集团股份有限公司、山西杏花村汾酒集团有限责任公司。

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本标准所代替标准的历次版本发布情况为：

- GB/T 10345.1—1989；
- GB/T 10345.2—1989；
- GB/T 10345.3—1989；
- GB/T 10345.4—1989；
- GB/T 10345.5—1989；
- GB/T 10345.6—1989；
- GB/T 10345.7—1989；
- GB/T 10345.8—1989。

# 白酒分析方法

## 1 范围

本标准规定了白酒分析的总则、基本要求和详细分析步骤。

本标准适用于各种香型白酒的分析。

## 2 规范性引用文件

下列文件中的条款通过本标准的引用而成为本标准的条款。凡是注日期的引用文件,其随后所有的修改单(不包括勘误的内容)或修订版均不适用于本标准,然而,鼓励根据本标准达成协议的各方研究是否可使用这些文件的最新版本。凡是不注日期的引用文件,其最新版本适用于本标准。

GB/T 601 化学试剂 标准滴定溶液的制备

GB/T 603 化学试剂 试验方法中所用制剂及制品的制备(GB/T 603—2002,ISO 6353-1:1982,NEQ)

GB/T 6682—1992 分析实验室用水规格和试验方法(neq ISO 3696:1987)

## 3 总则

3.1 本标准中所采用的名词术语、计量单位应符合国家相关标准的规定。

3.2 本标准中所用的分析天平、酸度计、分光光度计和气相色谱仪要按时检定;所用的酒精计、温度计、微量注射器、移液管、滴定管、容量瓶等玻璃计量器具应按有关检定规程进行校正。

3.3 本标准中的“仪器”,为分析中所必需的仪器,一般实验室仪器不再列入。

3.4 本标准中所用的水,在未注明其他要求时,应符合 GB/T 6682—1992 中三级以上(含三级)水的规格。所用试剂,在未注明其他规格时,均指分析纯(AR)。

3.5 本标准中的“溶液”,除另有说明外,均指水溶液,“稀释至刻度”是指用水定容。

3.6 同一检测项目,有两个或两个以上分析方法时,各实验室可根据各自条件选用,但以第一法为仲裁法。

## 4 基本要求

4.1 测定样品,应做平行试验。以实测数据报告其分析结果,不需要按酒精度折算,有效数字要与技术要求相一致。

4.2 分析中所用玻璃器皿,用前应以铬酸洗涤液浸泡,用自来水冲洗,再用蒸馏水洗干净。测定金属离子(如:铅、锰)时,应用 15% 的硝酸浸泡,然后,直接用去离子水冲洗干净。

4.3 分析方法中的有效数字,表示吸取或称量时要求达到的精密度。

4.4 恒重系指样品经干燥,前后两次称量值之差在 2 mg 以下。

4.5 色谱分析时,微量注射器应清洗干净。通常,使用前后要用乙醚抽洗 50 次~100 次。连续进样时,也可用酒样直接抽洗干净。

## 5 感官评定

### 5.1 原理

感官评定是指评酒者通过眼、鼻、口等感觉器官,对白酒样品的色泽、香气、口味及风格特征的分析评价。

## 5.2 品酒环境

品酒室要求光线充足、柔和、适宜,温度为 20℃~25℃,湿度约为 60%。恒温恒湿,空气新鲜,无香气及邪杂气味。

## 5.3 评酒要求

5.3.1 评酒员要求感觉器官灵敏,经过专门训练与考核,符合感官分析要求,熟悉白酒的感官品评用语,掌握相关香型白酒的特征。

5.3.2 评语要公正、科学、准确。

5.3.3 品酒杯外形及尺寸见图 1。

单位为毫米

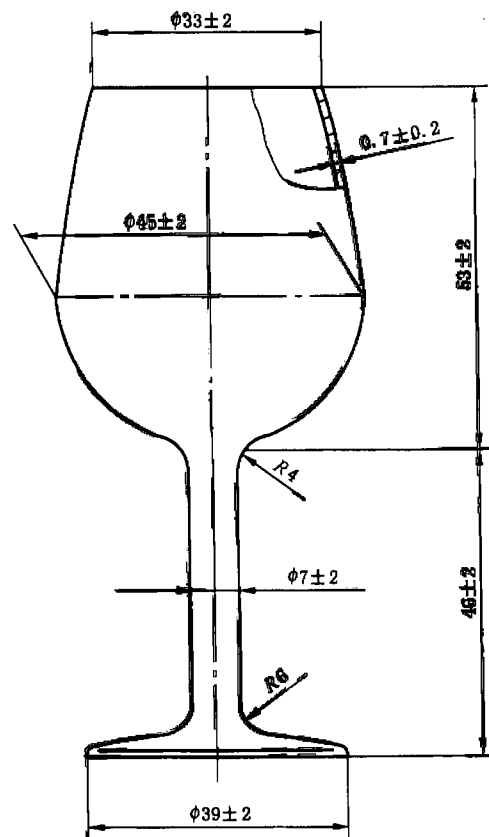


图 1 品酒杯

## 5.4 品评

### 5.4.1 样品的准备

将样品放置于 20℃±2℃环境下平衡 24 h(或 20℃±2℃水浴中保温 1 h)后,采取密码标记后进行感官品评。

### 5.4.2 色泽

将样品注入洁净、干燥的品酒杯中(注入量为品酒杯的 1/2~2/3),在明亮处观察,记录其色泽、清亮程度、沉淀及悬浮物情况。

### 5.4.3 香气

将样品注入洁净、干燥的品酒杯中(注入量为品酒杯的 1/2~2/3),先轻轻摇动酒杯,然后用鼻进行闻嗅,记录其香气特征。

#### 5.4.4 口味

将样品注入洁净、干燥的酒杯中(注入量为品酒杯的1/2~2/3),喝入少量样品(约2 mL)于口中,以味觉器官仔细品尝,记下口味特征。

#### 5.4.5 风格

通过品评样品的香气、口味并综合分析,判断是否具有该产品的风格特点,并记录其典型性程度。

### 6 酒精度

#### 6.1 密度瓶法

##### 6.1.1 原理

以蒸馏法去除样品中的不挥发性物质,用密度瓶法测出试样(酒精水溶液)20℃时的密度,查附录A,求得在20℃时乙醇含量的体积分数,即为酒精度。

##### 6.1.2 仪器

6.1.2.1 全玻璃蒸馏器:500 mL。

6.1.2.2 恒温水浴,控温精度±0.1℃。

6.1.2.3 附温度计密度瓶:25 mL或50 mL。

##### 6.1.3 试样液的制备

用一洁净、干燥的100 mL容量瓶,准确量取样品(液温20℃)100 mL于500 mL蒸馏瓶中,用50 mL水分三次冲洗容量瓶,洗液并入蒸馏瓶中,加几颗沸石(或玻璃珠),连接蛇形冷凝管,以取样用的原容量瓶作接收器(外加冰浴),开启冷却水(冷却水温度宜低于15℃),缓慢加热蒸馏(沸腾后蒸馏时间应控制在30 min~40 min内完成),收集馏出液,当接近刻度时,取下容量瓶,盖塞,于20℃水浴中保温30 min,再加水至刻度,混匀,备用。

##### 6.1.4 分析步骤

将密度瓶洗净,反复烘干、称量,直至恒重( $m$ )。

取下带温度计的瓶塞,将煮沸冷却至15℃的水注满已恒重的密度瓶中,插上带温度计的瓶塞(瓶中不得有气泡),立即浸入20.0℃±0.1℃的恒温水浴中,待内容物温度达20℃并保持20 min不变后,用滤纸快速吸去溢出侧管的液体,立即盖好侧支上的小罩,取出密度瓶,用滤纸擦干瓶外壁上的水液,立即称量( $m_1$ )。

将水倒出,先用无水乙醇,再用乙醚冲洗密度瓶,吹干(或于烘箱中烘干),用试样液(6.1.3)反复冲洗密度瓶3次~5次,然后装满。重复上述操作,称量( $m_2$ )。

##### 6.1.5 结果计算

试样液(20℃)的相对密度按式(1)计算。

$$d_{20}^{20} = \frac{m_2 - m}{m_1 - m} \dots\dots\dots (1)$$

式中:

$d_{20}^{20}$ ——试样液(20℃)的相对密度;

$m_2$ ——密度瓶和试样液的质量,单位为克(g);

$m$ ——密度瓶的质量,单位为克(g);

$m_1$ ——密度瓶和水的质量,单位为克(g)。

根据试样液的相对密度 $d_{20}^{20}$ ,查附录A,求得20℃时样品的酒精度。

所得结果应表示至一位小数。

##### 6.1.6 精密度

在重复性条件下获得的两次独立测定结果的绝对差值,不应超过平均值的0.5%。

6.2 酒精计法

6.2.1 原理

用精密酒精计读取酒精体积分数示值,按附录 B 进行温度校正,求得在 20℃ 时乙醇含量的体积分数,即为酒精度。

6.2.2 仪器

精密酒精计:分度值为 0.1%vol。

6.2.3 分析步骤

将试样液(6.1.3)注入洁净、干燥的 100 mL 量筒中,静置数分钟,待酒中气泡消失后,放入洁净、擦干的酒精计,再轻轻按一下,不应接触量筒壁,同时插入温度计,平衡约 5 min,水平观测,读取与弯月面相切处的刻度示值,同时记录温度。根据测得的酒精计示值和温度,查附录 B,换算成 20℃ 时样品的酒精度。

所得结果应表示至一位小数。

6.2.4 精密度

在重复性条件下获得的两次独立测定结果的绝对差值,不应超过平均值的 0.5%。

7 总酸

7.1 指示剂法

7.1.1 原理

白酒中的有机酸,以酚酞为指示剂,采用氢氧化钠溶液进行中和滴定,以消耗氢氧化钠标准滴定溶液的量计算总酸的含量。

7.1.2 试剂和溶液

7.1.2.1 酚酞指示剂(10 g/L):按 GB/T 603 配制。

7.1.2.2 氢氧化钠标准滴定溶液[c(NaOH)=0.1 mol/L]:按 GB/T 601 配制与标定。

7.1.3 分析步骤

吸取样品 50.0 mL 于 250 mL 锥形瓶中,加入酚酞指示剂(7.1.2.1)2 滴;以氢氧化钠标准滴定溶液(7.1.2.2)滴定至微红色,即为其终点。

7.1.4 结果计算

样品中的总酸含量按式(2)计算。

$$X = \frac{c \times V \times 60}{50.0} \dots\dots\dots (2)$$

式中:

X——样品中总酸的质量浓度(以乙酸计),单位为克每升(g/L);

c——氢氧化钠标准滴定溶液的实际浓度,单位为摩尔每升(mol/L);

V——测定时消耗氢氧化钠标准滴定溶液的体积,单位为毫升(mL);

60——乙酸的摩尔质量的数值,单位为克每摩尔(g/mol)[M(CH<sub>3</sub>COOH)=60];

50.0——吸取样品的体积,单位为毫升(mL)。

所得结果应表示至两位小数。

7.1.5 精密度

在重复性条件下获得的两次独立测定结果的绝对差值,不应超过平均值的 2%。

## 7.2 电位滴定法

### 7.2.1 原理

白酒中的有机酸,以酚酞为指示剂,采用氢氧化钠溶液进行中和滴定,当滴定接近等当点时,利用pH变化指示终点。

### 7.2.2 试剂和溶液

同7.1.2。

### 7.2.3 仪器

电位滴定仪(或酸度计):精度为2 mV。

### 7.2.4 分析步骤

按使用说明书安装调试仪器,根据液温进行校正定位。

吸取样品50.0 mL(若用复合电极可酌情增加取样量)于100 mL烧杯中,插入电极,放入一枚转于,置于电磁搅拌器上,开始搅拌,初始阶段可快速滴加氢氧化钠标准滴定溶液(7.1.2.2),当样液pH=8.00后,放慢滴定速度,每次滴加半滴溶液,直至pH=9.00为其终点,记录消耗氢氧化钠标准滴定溶液的体积。

### 7.2.5 结果计算

同7.1.4。

### 7.2.6 精密度

同7.1.5。

## 8 总酯

### 8.1 指示剂法

#### 8.1.1 原理

用碱中和样品中的游离酸,再准确加入一定量的碱,加热回流使酯类皂化。通过消耗碱的量计算出总酯的含量。

#### 8.1.2 仪器

8.1.2.1 全玻璃蒸馏器:500 mL;

8.1.2.2 全玻璃回流装置:回流瓶1 000 mL、250 mL(冷凝管不短于45 cm);

8.1.2.3 碱式滴定管:25 mL或50 mL;

8.1.2.4 酸式滴定管:25 mL或50 mL。

#### 8.1.3 试剂和溶液

8.1.3.1 氢氧化钠标准滴定溶液 $[c(\text{NaOH})=0.1 \text{ mol/L}]$ :按GB/T 601配制与标定。

8.1.3.2 氢氧化钠标准溶液 $[c(\text{NaOH})=3.5 \text{ mol/L}]$ :按GB/T 601配制。

8.1.3.3 硫酸标准滴定溶液 $[c(\frac{1}{2}\text{H}_2\text{SO}_4)=0.1 \text{ mol/L}]$ :按GB/T 601配制与标定。

8.1.3.4 乙醇(无酯)溶液[40%(体积分数)]:量取95%乙醇600 mL于1 000 mL回流瓶(8.1.2.2)中,加氢氧化钠标准溶液(8.1.3.2)5 mL,加热回流皂化1 h。然后移入蒸馏器中重蒸,再配成40%(体积分数)乙醇溶液。

8.1.3.5 酚酞指示剂(10 g/L):按GB/T 603配制。

#### 8.1.4 分析步骤

吸取样品50.0 mL于250 mL回流瓶中,加2滴酚酞指示剂(8.1.3.5),以氢氧化钠标准滴定溶液(8.1.3.1)滴定至粉红色(切勿过量),记录消耗氢氧化钠标准滴定溶液的毫升数(也可作为总酸含量计



算)。再准确加入氢氧化钠标准滴定溶液(8.1.3.1)25.00 mL(若样品总酯含量高时,可加入 50.00 mL),摇匀,放入几颗沸石或玻璃珠,装上冷凝管(冷却水温度宜低于 15℃),于沸水浴上回流 30 min,取下,冷却。然后,用硫酸标准滴定溶液(8.1.3.3)进行滴定,使微红色刚好完全消失为其终点,记录消耗硫酸标准滴定溶液的体积。同时吸取乙醇(无酯)溶液(8.1.3.4)50 mL,按上述方法同样操作做空白试验,记录消耗硫酸标准滴定溶液的体积。

### 8.1.5 结果计算

样品中的总酯含量按式(3)计算。

$$X = \frac{c \times (V_0 - V_1) \times 88}{50.0} \dots\dots\dots(3)$$

式中:

X——样品中总酯的质量浓度(以乙酸乙酯计),单位为克每升(g/L);

c——硫酸标准滴定溶液的实际浓度,单位为摩尔每升(mol/L);

V<sub>0</sub>——空白试验样品消耗硫酸标准滴定溶液的体积,单位为毫升(mL);

V<sub>1</sub>——样品消耗硫酸标准滴定溶液的体积,单位为毫升(mL);

88——乙酸乙酯的摩尔质量的数值,单位为克每摩尔(g/mol)[M(CH<sub>3</sub>COOC<sub>2</sub>H<sub>5</sub>)=88];

50.0——吸取样品的体积,单位为毫升(mL)。

所得结果应表示至两位小数。

### 8.1.6 精密度

在重复性条件下获得的两次独立测定结果的绝对差值,不应超过平均值的 2%。

## 8.2 电位滴定法

### 8.2.1 原理

用碱中和样品中的游离酸,再加入一定量的碱,回流皂化。用硫酸溶液进行中和滴定,当滴定接近等当点时,利用 pH 变化指示终点。

### 8.2.2 仪器

8.2.2.1 同 8.1.2.1;

8.2.2.2 同 8.1.2.2;

8.2.2.3 同 8.1.2.3;

8.2.2.4 同 8.1.2.4;

8.2.2.5 电位滴定仪(或酸度计);精度为 2 mV。

### 8.2.3 试剂和溶液

同 8.1.3。

### 8.2.4 分析步骤

按使用说明书安装调试仪器,根据液温进行校正定位。

吸取样品 50.0 mL 于 250 mL 回流瓶中,加两滴酚酞指示剂(8.1.3.5),以氢氧化钠标准滴定溶液(8.1.3.1)滴定至粉红色(切勿过量),记录消耗氢氧化钠标准滴定溶液的毫升数(也可作为总酸含量计算)。再准确加入氢氧化钠标准滴定溶液(8.1.3.1)25.00 mL(若样品总酯含量高时,可加入 50.00 mL),摇匀,放入几颗沸石或玻璃珠,装上冷凝管(冷却水温度宜低于 15℃),于沸水浴上回流 30 min,取下,冷却。将样液移入 100 mL 小烧杯中,用 10 mL 水分次冲洗回流瓶,洗液并入小烧杯。插入电极,放入一枚转子,置于电磁搅拌器上,开始搅拌,初始阶段可快速滴加硫酸标准滴定溶液(8.1.3.3),当样液 pH=9.00 后,放慢滴定速度,每次滴加半滴溶液,直至 pH=8.70 为其终点,记录消耗硫酸标准滴定溶液的体积。同时吸取乙醇(无酯)溶液(8.1.3.4)50.00 mL,按上述方法同样操作做空白试验,记录消耗

硫酸标准滴定溶液的体积。

#### 8.2.5 结果计算

同 8.1.5。

#### 8.2.6 精密度

同 8.1.6。

### 9 固形物

#### 9.1 原理

白酒经蒸发、烘干后,不挥发性物质残留于皿中,用称量法测定。

#### 9.2 仪器

9.2.1 电热干燥箱:控温精度 $\pm 2^{\circ}\text{C}$ 。

9.2.2 分析天平:感量 0.1 mg。

9.2.3 瓷蒸发皿:100 mL。

9.2.4 干燥器:用变色硅胶作干燥剂。

#### 9.3 分析步骤

吸取样品 50.0 mL,注入已烘干至恒重的 100 mL 瓷蒸发皿内,置于沸水浴上,蒸发至干,然后将蒸发皿放入  $103^{\circ}\text{C} \pm 2^{\circ}\text{C}$  电热干燥箱内,烘 2 h,取出,置于干燥器内 30 min,称量。再放入  $103^{\circ}\text{C} \pm 2^{\circ}\text{C}$  电热干燥箱内,烘 1 h,取出,置于干燥器内 30 min,称量。重复上述操作,直至恒重。

#### 9.4 结果计算

样品中的固形物含量按式(4)计算。

$$X = \frac{m - m_1}{50.0} \times 1000 \quad \dots\dots\dots(4)$$

式中:

$X$ ——样品中固形物的质量浓度,单位为克每升(g/L);

$m$ ——固形物和蒸发皿的质量,单位为克(g);

$m_1$ ——蒸发皿的质量,单位为克(g);

50.0——吸取样品的体积,单位为毫升(mL)。

所得结果应表示至两位小数。

#### 9.5 精密度

在重复性条件下获得的两次独立测定结果的绝对差值,不应超过平均值的 2%。

### 10 乙酸乙酯

#### 10.1 原理

样品被气化后,随同载气进入色谱柱,利用被测定的各组分在气液两相中具有不同的分配系数,在柱内形成迁移速度的差异而得到分离。分离后的组分先后流出色谱柱,进入氢火焰离子化检测器,根据色谱图上各组分峰的保留值与标样相对照进行定性;利用峰面积(或峰高),以内标法定量。

#### 10.2 仪器和材料

##### 10.2.1 气相色谱仪

备有氢火焰离子化检测器(FID)。

##### 10.2.2 色谱柱

10.2.2.1 毛细管柱:LZP-930 白酒分析专用柱(柱长 18 m,内径 0.53 mm)或 FFAP 毛细管色谱柱(柱

长 35 m~50 m, 内径 0.25 mm, 涂层 0.2 μm), 或其他具有同等分析效果的毛细管色谱柱。

10.2.2.2 填充柱: 柱长不短于 2 m。

10.2.2.2.1 载体: Chromosorb W(AW) 或白色担体 102(酸洗, 硅烷化)。80 目~100 目。

10.2.2.2.2 固定液: 20% DNP(邻苯二甲酸二壬酯) 加 7% 吐温 80, 或 10% PEG(聚乙二醇) 1500 或 PEG 20M。

10.2.3 微量注射器

10 μL、1 μL。

10.3 试剂和溶液

10.3.1 乙醇溶液[60%(体积分数)]: 用乙醇(色谱纯)加水配制。

10.3.2 乙酸乙酯溶液[2%(体积分数)]: 作标样用。吸取乙酸乙酯(色谱纯) 2 mL, 用乙醇溶液(10.3.1)定容至 100 mL。

10.3.3 乙酸正戊酯溶液[2%(体积分数)]: 使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯) 2 mL, 用乙醇溶液(10.3.1)定容至 100 mL。

10.3.4 乙酸正丁酯溶液[2%(体积分数)]: 使用填充柱时作内标用。吸取乙酸正丁酯(色谱纯) 2 mL, 用乙醇溶液(10.3.1)定容至 100 mL。

10.4 分析步骤

10.4.1 色谱参考条件

10.4.1.1 毛细管柱

载气(高纯氮): 流速为 0.5 mL/min~1.0 mL/min, 分流比: 约 37 : 1, 尾吹约 20 mL/min~30 mL/min;

氢气: 流速为 40 mL/min;

空气: 流速为 400 mL/min;

检测器温度(T<sub>D</sub>): 220℃;

注样器温度(T<sub>J</sub>): 220℃;

柱温(T<sub>C</sub>): 起始温度 60℃, 恒温 3 min, 以 3.5℃/min 程序升温至 180℃, 继续恒温 10 min。

10.4.1.2 填充柱

载气(高纯氮): 流速为 150 mL/min;

氢气: 流速为 40 mL/min;

空气: 流速为 400 mL/min;

检测器温度(T<sub>D</sub>): 150℃;

注样器温度(T<sub>J</sub>): 150℃;

柱温(T<sub>C</sub>): 90℃, 等温。

载气、氢气、空气的流速等色谱条件随仪器而异, 应通过试验选择最佳操作条件, 以内标峰与样品中其他组份峰获得完全分离为准。

10.4.2 校正因子(f 值)的测定

吸取乙酸乙酯溶液(10.3.2) 1.00 mL, 移入 100 mL 容量瓶中, 加入内标溶液(10.3.3 或 10.3.4) 1.00 mL, 用乙醇溶液(10.3.1) 稀释至刻度。上述溶液中乙酸乙酯和内标的浓度均为 0.02%(体积分数)。待色谱仪基线稳定后, 用微量注射器进样, 进样量随仪器的灵敏度而定。记录乙酸乙酯和内标峰的保留时间及其峰面积(或峰高), 用其比值计算出乙酸乙酯的相对校正因子。

校正因子按式(5)计算。

$$f = \frac{A_1}{A_2} \times \frac{d_2}{d_1} \dots\dots\dots(5)$$

式中:

$f$ ——乙酸乙酯的相对校正因子;

$A_1$ ——标样  $f$  值测定时内标的峰面积(或峰高);

$A_2$ ——标样  $f$  值测定时乙酸乙酯的峰面积(或峰高);

$d_2$ ——乙酸乙酯的相对密度;

$d_1$ ——内标物的相对密度。

#### 10.4.3 样品测定

吸取样品 10.0 mL 于 10 mL 容量瓶中,加入内标溶液(10.3.3 或 10.3.4)0.10 mL,混匀后,在与  $f$  值测定相同的条件下进样,根据保留时间确定乙酸乙酯峰的位置,并测定乙酸乙酯与内标峰面积(或峰高),求出峰面积(或峰高)之比,计算出样品中乙酸乙酯的含量。

#### 10.5 结果计算

样品中的乙酸乙酯含量按式(6)计算。

$$X_1 = f \times \frac{A_3}{A_4} \times I \times 10^{-3} \dots\dots\dots(6)$$

式中:

$X_1$ ——样品中乙酸乙酯的质量浓度,单位为克每升(g/L);

$f$ ——乙酸乙酯的相对校正因子;

$A_3$ ——样品中乙酸乙酯的峰面积(或峰高);

$A_4$ ——添加于酒样中内标的峰面积(或峰高);

$I$ ——内标物的质量浓度(添加在酒样中),单位为毫克每升(mg/L)。

所得结果应表示至两位小数。

#### 10.6 精密度

在重复性条件下获得的两次独立测定结果的绝对差值,不应超过平均值的 5%。

### 11 己酸乙酯

#### 11.1 原理

同 10.1。

#### 11.2 仪器和材料

##### 11.2.1 气相色谱仪

备有氢火焰离子化检测器(FID)。

##### 11.2.2 色谱柱

11.2.2.1 毛细管柱:LZP-930 白酒分析专用柱(柱长 18 m,内径 0.53 mm)或 PEG 20M 毛细管色谱柱(柱长 35 m~50 m,内径 0.25 mm,涂层 0.2  $\mu$ m),或其他具有同等分析效果的毛细管色谱柱。

11.2.2.2 填充柱:柱长不短于 2 m。

11.2.2.2.1 载体:Chromosorb W(AW)或白色担体 102(酸洗,硅烷化)。80 目~100 目。

11.2.2.2.2 固定液:20% DNP(邻苯二甲酸二壬酯)加 7%吐温 80,或 10%PEG(聚乙二醇)1500 或 PEG 20M。

##### 11.2.3 微量注射器

10  $\mu$ L、1  $\mu$ L。

#### 11.3 试剂和溶液

11.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

11.3.2 己酸乙酯溶液[2%(体积分数)]:作标样用。吸取己酸乙酯(色谱纯)2 mL,用乙醇溶液(11.3.1)定容至100 mL。

11.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯)2 mL,用乙醇溶液(11.3.1)定容至100 mL。

11.3.4 乙酸正丁酯溶液[2%(体积分数)]:使用填充柱时作内标用。吸取乙酸正丁酯(色谱纯)2 mL,用乙醇溶液(11.3.1)定容至100 mL。

#### 11.4 分析步骤

除标样改为己酸乙酯溶液(11.3.2)外,其他操作同10.4。

#### 11.5 结果计算

同10.5。

#### 11.6 精密度

同10.6。

### 12 乳酸乙酯

#### 12.1 原理

同10.1。

#### 12.2 仪器和材料

##### 12.2.1 气相色谱仪

备有氢火焰离子化检测器(FID)。

##### 12.2.2 色谱柱

12.2.2.1 毛细管柱:LZP-930 白酒分析专用柱(柱长18 m,内径0.53 mm)或PEG 20M 毛细管色谱柱(柱长35 m~50 m,内径0.25 mm,涂层0.2 μm),或其他具有同等分析效果的毛细管色谱柱。

12.2.2.2 填充柱,柱长不短于2 m。

12.2.2.2.1 载体:Chromosorb W(AW)或白色担体102(酸洗,硅烷化)。80目~100目。

12.2.2.2.2 固定液:20%DNP(邻苯二甲酸二壬酯)加7%吐温80,或10%PEG(聚乙二醇)1500或PEG 20M。

##### 12.2.3 微量注射器

10 μL,1 μL。

#### 12.3 试剂和溶液

12.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

12.3.2 乳酸乙酯溶液[2%(体积分数)]:作标样用。吸取乳酸乙酯(色谱纯)2 mL,用乙醇溶液(12.3.1)定容至100 mL。

12.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯)2 mL,用乙醇溶液(12.3.1)定容至100 mL。

12.3.4 乙酸正丁酯溶液[2%(体积分数)]:使用填充柱时作内标用。吸取乙酸正丁酯(色谱纯)2 mL,用乙醇溶液(12.3.1)定容至100 mL。

#### 12.4 分析步骤

除标样改为乳酸乙酯溶液(12.3.2)外,其他操作同10.4。

#### 12.5 结果计算

同10.5。

#### 12.6 精密度

同10.6。

## 13 丁酸乙酯

### 13.1 原理

同 10.1。

### 13.2 仪器和材料

#### 13.2.1 气相色谱仪

备有氢火焰离子化检测器(FID)。

#### 13.2.2 色谱柱

13.2.2.1 毛细管柱:LZP-930 白酒分析专用柱(柱长 18 m,内径 0.53 mm)或 PEG 20M 毛细管色谱柱(柱长 35 m~50 m,内径 0.25 mm,涂层 0.2 μm),或其他具有同等分析效果的毛细管色谱柱。

13.2.2.2 填充柱:柱长不短于 2 m。

13.2.2.2.1 载体:Chromosorb W(AW)或白色担体 102(酸洗,硅烧化)。80 目~100 目。

13.2.2.2.2 固定液:20% DNP(邻苯二甲酸二壬酯)加 7%吐温 80,或 10%PEG(聚乙二醇)1500 或 PEG 20M。

#### 13.2.3 微量注射器

10 μL、1 μL。

### 13.3 试剂和溶液

13.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

13.3.2 丁酸乙酯溶液[2%(体积分数)]:作标样用。吸取丁酸乙酯(色谱纯)2 mL,用乙醇溶液(13.3.1)定容至 100 mL。

13.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯)2 mL,用乙醇溶液(13.3.1)定容至 100 mL。

13.3.4 乙酸正丁酯溶液[2%(体积分数)]:使用填充柱时作内标用。吸取乙酸正丁酯(色谱纯)2 mL,用乙醇溶液(13.3.1)定容至 100 mL。

### 13.4 分析步骤

除标样改为丁酸乙酯溶液(13.3.2)外,其他操作同 10.4。

### 13.5 结果计算

同 10.5。

### 13.6 精密度

同 10.6。

## 14 丙酸乙酯

### 14.1 原理

样品被气化后,随同载气进入色谱柱,利用被测定的各组分在气液两相中具有不同的分配系数,在柱内形成迁移速度的差异而得到分离。分离后的组分先后流出色谱柱,进入氢火焰离子化检测器,根据色谱图上各组分峰的保留值与标样相对照进行定性;利用峰面积(或峰高),以内标法定量。

当采用邻苯二甲酸二壬酯+吐温 80 混合柱测定时,丙酸乙酯与乙缩醛完全重叠,为此,要先将酒样加酸水解,使其中的乙缩醛分解,该组分峰的剩余部分即为丙酸乙酯,再按常规法加以测定。

### 14.2 仪器和材料

#### 14.2.1 气相色谱仪

备有氢火焰离子化检测器(FID)。

#### 14.2.2 色谱柱

14.2.2.1 毛细管柱:LZP-930 白酒分析专用柱(柱长 18 m,内径 0.53 mm),或其他具有同等分析效果的毛细管色谱柱。

14.2.2.2 填充柱:柱长不短于 2 m。

14.2.2.2.1 载体:Chromosorb W(AW)或白色担体 102(酸洗,硅烷化)。80 目~100 目。

14.2.2.2.2 固定液:20%DNP(邻苯二甲酸二壬酯)加 7%吐温 80,或 10%PEG(聚乙二醇)1500 或 PEG 20M。

#### 14.2.3 微量注射器

10  $\mu$ L、1  $\mu$ L。

#### 14.3 试剂和溶液

14.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

14.3.2 丙酸乙酯溶液[2%(体积分数)]:作标样用。吸取丙酸乙酯(色谱纯)2 mL,用乙醇溶液(14.3.1)定容至 100 mL。

14.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯)2 mL,用乙醇溶液(14.3.1)定容至 100 mL。

14.3.4 乙酸正丁酯溶液[2%(体积分数)]:使用填充柱时作内标用。吸取乙酸正丁酯(色谱纯)2 mL,用乙醇溶液(14.3.1)定容至 100 mL。

14.3.5 盐酸溶液[10%(体积分数)]。

#### 14.4 分析步骤

##### 14.4.1 色谱参考条件

###### 14.4.1.1 毛细管柱

载气(高纯氮):流速为 0.5 mL/min~1.0 mL/min,分流比:约 37:1,尾吹约 20 mL/min~30 mL/min;

氢气:流速为 40 mL/min;

空气:流速为 400 mL/min;

检测器温度( $T_D$ ):220 $^{\circ}$ C;

注样器温度( $T_I$ ):220 $^{\circ}$ C;

柱温( $T_C$ ):起始温度 60 $^{\circ}$ C,恒温 3 min,以 3.5 $^{\circ}$ C/min 程序升温至 180 $^{\circ}$ C,继续恒温 10 min。

###### 14.4.1.2 填充柱

载气(高纯氮):流速为 150 mL/min;

氢气:流速为 40 mL/min;

空气:流速为 400 mL/min;

检测器温度( $T_D$ ):150 $^{\circ}$ C;

注样器温度( $T_I$ ):150 $^{\circ}$ C;

柱温( $T_C$ ):90 $^{\circ}$ C,等温。

载气、氢气、空气的流速等色谱条件随仪器而异,应通过试验选择最佳操作条件,以内标峰与酒样中其他组分峰获得完全分离为准。

##### 14.4.2 校正因子( $f$ 值)的测定

吸取丙酸乙酯溶液(14.3.2)1.00 mL,移入 100 mL 容量瓶中,加入内标溶液(14.3.3 或 14.3.4)1.00 mL,用乙醇溶液(14.3.1)稀释至刻度。上述溶液中丙酸乙酯和内标的浓度均为 0.02%(体积分数)。待色谱仪基线稳定后,用微量注射器进样,进样量随仪器的灵敏度而定。记录丙酸乙酯和内标峰

的保留时间及其峰面积(或峰高),用其比值计算出丙酸乙酯的相对校正因子。

校正因子按式(7)计算。

$$f = \frac{A_1}{A_2} \times \frac{d_2}{d_1} \dots\dots\dots(7)$$

式中:

$f$ ——丙酸乙酯的相对校正因子;

$A_1$ ——标样  $f$  值测定时内标的峰面积(或峰高);

$A_2$ ——标样  $f$  值测定时丙酸乙酯的峰面积(或峰高);

$d_2$ ——丙酸乙酯的相对密度;

$d_1$ ——内标物的相对密度。

#### 14.4.3 样品的测定

吸取样品 10.0 mL 于 10 mL 容量瓶中[如使用填充柱,吸取样品 3 mL 于 10 mL 容量瓶中,加入盐酸溶液(14.3.5)2 滴,用水定容至刻度,在室温下放置 1 h],加入内标溶液(14.3.3 或 14.3.4)0.10 mL,混匀后,在与  $f$  值测定相同的条件下进样,根据保留时间确定丙酸乙酯峰的位置,并测定丙酸乙酯与内标峰面积(或峰高),求出峰面积(或峰高)之比,计算出样品中丙酸乙酯的含量。

#### 14.5 结果计算

样品中的丙酸乙酯含量按式(8)计算。

$$X_1 = f \times \frac{A_3}{A_4} \times I \times 10^{-3} \dots\dots\dots(8)$$

式中:

$X_1$ ——样品中丙酸乙酯的质量浓度,单位为克每升(g/L);

$f$ ——丙酸乙酯的相对校正因子;

$A_3$ ——样品中丙酸乙酯的峰面积(或峰高);

$A_4$ ——添加于酒样中内标的峰面积(或峰高);

$I$ ——内标物的质量浓度(添加在酒样中),单位为毫克每升(mg/L)。

所得结果应表示至两位小数。

#### 14.6 精密度

在重复性条件下获得的两次独立测定结果的绝对差值,不应超过平均值的 5%。

### 15 正丙醇

#### 15.1 原理

同 10.1。

#### 15.2 仪器和材料

##### 15.2.1 气相色谱仪

备有氢火焰离子化检测器(FID)。

##### 15.2.2 色谱柱

15.2.2.1 毛细管柱:LZP-930 白酒分析专用柱(柱长 18 m,内径 0.53 mm)或 PEG 20M 毛细管色谱柱(柱长 35 m~50 m,内径 0.25 mm,涂层 0.2  $\mu$ m),或其他具有同等分析效果的毛细管色谱柱。

15.2.2.2 填充柱:柱长不短于 2 m。

15.2.2.2.1 载体:Chromosorb W(AW)或白色担体 102(酸洗,硅烷化)。80 目~100 目。

15.2.2.2.2 固定液:20% DNP(邻苯二甲酸二壬酯)+7% 吐温 80,或 10% PEG(聚乙二醇)1500 或 PEG 20M。



### 15.2.3 微量注射器

10  $\mu\text{L}$ 、1  $\mu\text{L}$ 。

### 15.3 试剂和溶液

15.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

15.3.2 正丙醇溶液[2%(体积分数)]:作标样用。吸取正丙醇(色谱纯)2 mL,用乙醇溶液(15.3.1)定容至100 mL。

15.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯)2 mL,用乙醇溶液(15.3.1)定容至100 mL。

15.3.4 乙酸正丁酯溶液[2%(体积分数)]:使用填充柱时作内标用。吸取乙酸正丁酯(色谱纯)2 mL,用乙醇溶液(15.3.1)定容至100 mL。

### 15.4 分析步骤

除标样改为正丙醇溶液(15.3.2)外,其他操作同10.4。

### 15.5 结果计算

同10.5。

### 15.6 精密度

同10.6。

## 16 $\beta$ -苯乙醇

### 16.1 原理

同10.1。

### 16.2 仪器和材料

16.2.1 气相色谱仪:备有氢火焰离子化检测器(FID)。

16.2.2 色谱柱:LZP-930 白酒分析专用柱(柱长18 m,内径0.53 mm)或PEG 20M 毛细管色谱柱(柱长35 m~50 m,内径0.25 mm,涂层0.2  $\mu\text{m}$ ),或其他具有同等分析效果的毛细管色谱柱。

16.2.3 微量注射器:10  $\mu\text{L}$ 、1  $\mu\text{L}$ 。

### 16.3 试剂和溶液

16.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

16.3.2  $\beta$ -苯乙醇溶液[2%(体积分数)]:作标样用。吸取 $\beta$ -苯乙醇(色谱纯)2 mL,用乙醇溶液(16.3.1)定容至100 mL。

16.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯)2 mL,用乙醇溶液(16.3.1)定容至100 mL。

### 16.4 分析步骤

除标样改为 $\beta$ -苯乙醇溶液(16.3.2)外,其他操作同10.4。

### 16.5 结果计算

同10.5。

### 16.6 精密度

同10.6。

## 17 3-甲硫基丙醇

### 17.1 原理

同10.1。

## 17.2 仪器和材料

17.2.1 气相色谱仪:备有氢火焰离子化检测器(FID)。

17.2.2 色谱柱:FFAP、PEG 20M 毛细管色谱柱(柱长 35 m~50 m, 内径 0.25 mm, 涂层 0.2 μm)或 LZP-930 白酒分析专用柱(柱长 18 m, 内径 0.53 mm),或其他具有同等分析效果的毛细管色谱柱。

17.2.3 微量注射器:10 μL、1 μL。

## 17.3 试剂和溶液

17.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

17.3.2 3-甲硫基丙醇溶液[2%(体积分数)]:作标样用。吸取 3-甲硫基丙醇(色谱纯)2 mL,用乙醇溶液(17.3.1)定容至 100 mL。

17.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯)2 mL,用乙醇溶液(17.3.1)定容至 100 mL。

## 17.4 分析步骤

### 17.4.1 色谱参考条件

载气(高纯氮):流速为 0.5 mL/min~1.0 mL/min,分流比:约 37:1,尾吹约 20 mL/min~30 mL/min。

氢气:流速为 40 mL/min。

空气:流速为 400 mL/min。

检测器温度( $T_D$ ):220℃。

注样器温度( $T_I$ ):220℃。

柱温( $T_C$ ):PEG 20M 柱起始温度 60℃,恒温 2 min,以 3.5℃/min 程序升温至 180℃,继续恒温 15 min。

FFAP 柱起始温度 50℃,恒温 2 min,以 3.5℃/min 程序升温至 70℃,再以 6℃/min 程序升温至 100℃,然后以 15℃/min 程序升温至 210℃,再继续恒温 10 min。

载气、氢气、空气的流速等色谱条件随仪器而异,应通过试验选择最佳操作条件,以内标峰与酒样中其他组分峰获得完全分离为准。

### 17.4.2 校正因子( $f$ 值)和样品的测定

除标样改为 3-甲硫基丙醇溶液(17.3.2)外,其他操作同 10.4.2 和 10.4.3。

## 17.5 结果计算

同 10.5。

## 17.6 精密度

同 10.6。

## 18 二元酸(庚二酸、辛二酸、壬二酸)二乙酯

### 18.1 原理

同 10.1。

### 18.2 仪器和材料

18.2.1 气相色谱仪:备有氢火焰离子化检测器(FID)。

18.2.2 色谱柱:FFAP 毛细管色谱柱(柱长 35 m~50 m, 内径 0.25 mm, 涂层 0.2 μm)或其他具有同等分析效果的毛细管色谱柱。

18.2.3 微量注射器:10 μL、1 μL。

## 18.3 试剂和溶液

18.3.1 乙醇溶液[60%(体积分数)]:用乙醇(色谱纯)加水配制。

18.3.2 庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯混合标准溶液[1%(体积分数)]:作标样用。吸取庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯(色谱纯)各 1 mL,用乙醇溶液(18.3.1)定容至 100 mL。

18.3.3 乙酸正戊酯溶液[2%(体积分数)]:使用毛细管柱时作内标用。吸取乙酸正戊酯(色谱纯) 2 mL,用乙醇溶液(18.3.1)定容至 100 mL。

## 18.4 分析步骤

## 18.4.1 色谱参考条件

载气(高纯氮):流速为 0.5 mL/min~1.0 mL/min,分流比:约 37:1,尾吹约 20 mL/min~30 mL/min;

氢气:流速为 40 mL/min;

空气:流速为 400 mL/min;

检测器温度( $T_D$ ):220°C;

注样器温度( $T_I$ ):220°C;

柱温( $T_C$ ):起始温度 120°C,恒温 1 min,以 20°C/min 程序升温至 220°C,继续恒温 10 min。

载气、氢气、空气的流速等色谱条件随仪器而异,应通过试验选择最佳操作条件,以内标峰与酒样中其他组分峰获得完全分离为准。

18.4.2 校正因子( $f$ 值)的测定

吸取庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯混合标准溶液(18.3.2)1.00 mL,移入 100 mL 容量瓶中,加入内标溶液(18.3.3)1.00 mL,用 60%乙醇溶液稀释至刻度。上述溶液中庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯和内标的浓度均为 0.01%(体积分数)。待色谱仪基线稳定后,用微量注射器进样,进样量随仪器的灵敏度而定。记录庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯和内标峰的保留时间及其峰面积(或峰高),用其比值计算出庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的相对校正因子。

校正因子按式(9)计算。

$$f = \frac{A_1}{A_2} \times \frac{d_2}{d_1} \quad \dots\dots\dots (9)$$

式中:

$f$ ——庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的相对校正因子;

$A_1$ ——标样  $f$  值测定时内标的峰面积(或峰高);

$A_2$ ——标样  $f$  值测定时庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的峰面积(或峰高);

$d_2$ ——庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的相对密度;

$d_1$ ——内标物的相对密度。

## 18.4.3 样品的测定

吸取样品 10.0 mL 于 10 mL 容量瓶中,加入内标溶液(18.3.3)0.20 mL,混匀后,在与  $f$  值测定相同的条件下进样,根据保留时间确定庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯峰的位置,并测定庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯与内标峰面积(或峰高),求出峰面积(或峰高)之比,计算出样品中庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的含量。

## 18.5 结果计算

18.5.1 样品中的庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯含量按式(10)计算。

$$X_1 = f \times \frac{A_3}{A_4} \times I \times 10^{-3} \quad \dots\dots\dots (10)$$

式中：

$X_1$ ——样品中庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的质量浓度，单位为克每升(g/L)；

$f$ ——庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的相对校正因子；

$A_3$ ——样品中庚二酸二乙酯、辛二酸二乙酯、壬二酸二乙酯的峰面积(或峰高)；

$A_4$ ——添加于酒样中内标的峰面积(或峰高)；

$I$ ——内标物的质量浓度(添加在酒样中)，单位为毫克每升(mg/L)。

18.5.2 样品中的二元酸(庚二酸、辛二酸、壬二酸)二乙酯含量按式(11)计算。

$$X = X_{庚} + X_{辛} + X_{壬} \quad \dots\dots\dots(11)$$

式中：

$X$ ——样品中二元酸(庚二酸、辛二酸、壬二酸)二乙酯的质量浓度，单位为克每升(g/L)；

$X_{庚}$ ——庚二酸二乙酯的质量浓度，单位为毫克每升(mg/L)；

$X_{辛}$ ——辛二酸二乙酯的质量浓度，单位为毫克每升(mg/L)；

$X_{壬}$ ——壬二酸二乙酯的质量浓度，单位为毫克每升(mg/L)。

所得结果应表示至两位小数。

#### 18.6 精密度

在重复性条件下获得的两次独立测定结果的绝对差值，不应超过平均值的5%。

## 附录 A

(规范性附录)

## 不同温度下酒精溶液相对密度与酒精度对照表

表 A.1 不同温度下酒精溶液相对密度与酒精度对照表(相对密度范围 0.9790~0.9581)

单位为 %vol

相对密度	温度/℃											
	15.56/15.56	20/20	22/22	24/24	25/25	26/26	28/28	30/30	32/32	34/34	35/35	36/36
0.9790	16.92	16.46	16.27	16.09	16.00	15.92	15.75	15.59	15.44	15.29	15.22	15.15
0.9789	17.02	16.55	16.36	16.18	16.09	16.01	15.84	15.67	15.52	15.37	15.30	15.23
0.9788	17.12	16.64	16.45	16.27	16.18	16.10	15.93	15.76	15.61	15.45	15.38	15.31
0.9787	17.22	16.73	16.54	16.36	16.27	16.18	16.01	15.84	15.68	15.52	15.45	15.38
0.9786	17.32	16.83	16.63	16.44	16.35	16.26	16.09	15.92	15.76	15.60	15.53	15.46
0.9785	17.42	16.92	16.72	16.53	16.44	16.35	16.17	16.00	15.84	15.68	15.61	15.53
0.9784	17.51	17.01	16.81	16.62	16.53	16.44	16.26	16.08	15.92	15.76	15.69	15.61
0.9783	17.61	17.10	16.90	16.70	16.61	16.52	16.34	16.17	16.00	15.84	15.77	15.69
0.9782	17.71	17.20	16.99	16.79	16.70	16.61	16.43	16.25	16.08	15.92	15.84	15.76
0.9781	17.81	17.29	17.08	16.88	16.78	16.69	16.51	16.33	16.16	16.00	15.92	15.84
0.9780	17.91	17.38	17.17	16.97	16.87	16.78	16.59	16.41	16.24	16.08	16.00	15.92
0.9779	18.01	17.47	17.26	17.06	16.96	16.87	16.68	16.50	16.33	16.16	16.08	16.00
0.9778	18.11	17.57	17.35	17.14	17.04	16.95	16.76	16.58	16.41	16.24	16.16	16.08
0.9777	18.21	17.66	17.44	17.23	17.13	17.04	16.85	16.66	16.49	16.32	16.24	16.16
0.9776	18.31	17.75	17.53	17.32	17.22	17.12	16.93	16.74	16.57	16.40	16.32	16.24
0.9775	18.41	17.84	17.62	17.40	17.30	17.20	17.01	16.83	16.65	16.48	16.40	16.32
0.9774	18.51	17.94	17.72	17.50	17.39	17.29	17.10	16.91	16.73	16.56	16.48	16.40
0.9773	18.61	18.03	17.81	17.59	17.48	17.38	17.18	16.99	16.81	16.64	16.56	16.48
0.9772	18.71	18.12	17.90	17.68	17.57	17.47	17.27	17.07	16.89	16.72	16.63	16.55
0.9771	18.81	18.22	17.99	17.76	17.65	17.55	17.35	17.16	16.97	16.80	16.71	16.63
0.9770	18.91	18.31	18.08	17.85	17.74	17.63	17.43	17.24	17.05	16.88	16.79	16.71
0.9769	19.01	18.40	18.16	17.94	17.83	17.72	17.52	17.32	17.14	16.96	16.87	16.79
0.9768	19.11	18.50	18.25	18.02	17.91	17.80	17.60	17.40	17.22	17.04	16.95	16.86
0.9767	19.21	18.59	18.34	18.11	18.00	17.89	17.69	17.49	17.30	17.12	17.03	16.94
0.9766	19.32	18.69	18.44	18.20	18.09	17.98	17.78	17.57	17.38	17.20	17.11	17.02
0.9765	19.42	18.78	18.53	18.29	18.18	18.07	17.86	17.65	17.46	17.28	17.19	17.10
0.9764	19.52	18.88	18.63	18.38	18.27	18.16	17.95	17.74	17.55	17.36	17.27	17.17
0.9763	19.62	18.97	18.71	18.47	18.35	18.24	18.03	17.82	17.62	17.43	17.35	17.25
0.9762	19.72	19.07	18.81	18.56	18.44	18.33	18.11	17.90	17.70	17.51	17.43	17.33
0.9761	19.83	19.16	18.90	18.65	18.53	18.42	18.20	17.98	17.78	17.59	17.50	17.41
0.9760	19.93	19.26	18.99	18.74	18.62	18.50	18.28	18.07	17.87	17.67	17.58	17.49
0.9759	20.03	19.35	19.08	18.83	18.71	18.60	18.37	18.15	17.95	17.75	17.66	17.56
0.9758	20.13	19.45	19.18	18.92	18.80	18.69	18.46	18.23	18.03	17.83	17.74	17.64
0.9757	20.23	19.54	19.27	19.01	18.88	18.77	18.54	18.32	18.11	17.91	17.82	17.72
0.9756	20.33	19.64	19.36	19.10	18.97	18.86	18.62	18.40	18.19	17.99	17.90	17.80
0.9755	20.43	19.73	19.45	19.19	19.06	18.94	18.70	18.48	18.27	18.07	17.98	17.88
0.9754	20.53	19.83	19.55	19.28	19.15	19.03	18.79	18.57	18.36	18.15	18.06	17.96
0.9753	20.63	19.92	19.64	19.37	19.24	19.12	18.88	18.65	18.44	18.23	18.13	18.04

表 A.1(续)

单位为%vol

相对密度	温度/℃											
	15.56/15.56	20/20	22/22	24/24	25/25	26/26	28/28	30/30	32/32	34/34	35/35	36/36
0.9752	20.73	20.02	19.73	19.46	19.33	19.21	18.96	18.73	18.52	18.31	18.21	18.12
0.9751	20.83	20.11	19.82	19.55	19.42	19.30	19.05	18.82	18.60	18.39	18.29	18.19
0.9750	20.93	20.20	19.91	19.64	19.50	19.38	19.13	18.90	18.68	18.47	18.37	18.27
0.9749	21.03	20.30	20.01	19.73	19.59	19.47	19.22	18.98	18.76	18.55	18.45	18.35
0.9748	21.13	20.39	20.10	19.82	19.68	19.56	19.31	19.07	18.85	18.64	18.53	18.43
0.9747	21.23	20.48	20.19	19.91	19.77	19.65	19.39	19.15	18.93	18.72	18.61	18.51
0.9746	21.33	20.58	20.28	20.00	19.86	19.74	19.48	19.24	19.01	18.80	18.69	18.59
0.9745	21.43	20.67	20.37	20.09	19.95	19.82	19.56	19.32	19.09	18.88	18.77	18.67
0.9744	21.52	20.76	20.46	20.17	20.03	19.90	19.64	19.40	19.17	18.96	18.85	18.75
0.9743	21.62	20.86	20.55	20.26	20.12	19.99	19.73	19.49	19.26	19.04	18.93	18.83
0.9742	21.72	20.95	20.64	20.35	20.21	20.08	19.82	19.57	19.34	19.12	19.01	18.91
0.9741	21.82	21.04	20.73	20.44	20.30	20.17	19.91	19.66	19.42	19.20	19.09	18.98
0.9740	21.92	21.14	20.82	20.53	20.38	20.25	19.99	19.74	19.50	19.28	19.17	19.06
0.9739	22.02	21.23	20.91	20.62	20.47	20.34	20.07	19.82	19.58	19.35	19.24	19.13
0.9738	22.12	21.32	21.00	20.71	20.56	20.43	20.16	19.90	19.66	19.43	19.32	19.21
0.9737	22.22	21.41	21.09	20.79	20.64	20.51	20.24	19.98	19.74	19.51	19.40	19.29
0.9736	22.31	21.50	21.18	20.88	20.73	20.59	20.32	20.06	19.82	19.59	19.48	19.37
0.9735	22.41	21.60	21.27	20.97	20.82	20.68	20.41	20.15	19.90	19.67	19.56	19.45
0.9734	22.51	21.69	21.36	21.05	20.90	20.77	20.50	20.24	19.99	19.75	19.64	19.53
0.9733	22.61	21.78	21.45	21.14	20.99	20.85	20.58	20.32	20.07	19.83	19.72	19.61
0.9732	22.71	21.87	21.54	21.23	21.08	20.94	20.66	20.40	20.15	19.91	19.80	19.68
0.9731	22.80	21.96	21.63	21.32	21.16	21.02	20.74	20.48	20.23	19.99	19.87	19.76
0.9730	22.90	22.05	21.72	21.41	21.25	21.11	20.83	20.56	20.31	20.07	19.95	19.84
0.9729	23.00	22.14	21.81	21.50	21.34	21.20	20.91	20.64	20.39	20.15	20.03	19.92
0.9728	23.10	22.24	21.90	21.58	21.42	21.28	20.99	20.72	20.47	20.23	20.11	20.00
0.9727	23.19	22.33	21.99	21.67	21.51	21.36	21.07	20.80	20.55	20.31	20.19	20.08
0.9726	23.29	22.42	22.08	21.76	21.59	21.45	21.16	20.89	20.63	20.39	20.27	20.16
0.9725	23.38	22.51	22.17	21.84	21.68	21.53	21.24	20.97	20.71	20.46	20.34	20.23
0.9724	23.48	22.60	22.26	21.93	21.77	21.62	21.33	21.05	20.79	20.54	20.42	20.30
0.9723	23.58	22.69	22.34	22.01	21.85	21.70	21.41	21.13	20.87	20.62	20.50	20.38
0.9722	23.67	22.78	22.43	22.10	21.94	21.78	21.49	21.21	20.95	20.70	20.58	20.46
0.9721	23.77	22.87	22.52	22.19	22.03	21.87	21.58	21.30	21.03	20.78	20.66	20.54
0.9720	23.87	22.96	22.61	22.27	22.11	21.95	21.66	21.38	21.11	20.86	20.73	20.61
0.9719	23.96	23.06	22.70	22.36	22.19	22.04	21.74	21.46	21.19	20.94	20.81	20.69
0.9718	24.06	23.15	22.79	22.45	22.28	22.12	21.82	21.54	21.27	21.02	20.89	20.77
0.9717	24.15	23.24	22.88	22.54	22.36	22.21	21.91	21.62	21.35	21.10	20.97	20.85
0.9716	24.25	23.33	22.96	22.62	22.45	22.30	22.08	21.70	21.43	21.17	21.05	20.92
0.9715	24.34	23.42	23.05	22.70	22.53	22.38	22.16	21.79	21.51	21.24	21.12	20.99
0.9714	24.43	23.51	23.14	22.79	22.62	22.46	22.24	21.87	21.59	21.33	21.20	21.08
0.9713	24.53	23.60	23.22	22.87	22.70	22.54	22.32	21.95	21.67	21.40	21.27	21.15
0.9712	24.62	23.69	23.31	22.96	22.79	22.63	22.40	22.03	21.75	21.48	21.35	21.22
0.9711	24.72	23.78	23.40	23.04	22.87	22.71	22.49	22.11	21.83	21.56	21.43	21.30
0.9710	24.81	23.87	23.49	23.13	22.96	22.80	22.57	22.19	21.91	21.64	21.50	21.37

表 A.1(续)

单位为%vol

相对密度	温度/℃											
	15.56/15.56	20/20	22/22	24/24	25/25	26/26	28/28	30/30	32/32	34/34	35/35	36/36
0.9709	24.91	23.95	23.57	23.21	23.04	22.88	22.65	22.27	21.99	21.72	21.58	21.45
0.9708	25.00	24.04	23.66	23.30	23.13	22.97	22.73	22.35	22.07	21.80	21.66	21.53
0.9707	25.09	24.13	23.74	23.38	23.21	23.05	22.81	22.43	22.14	21.87	21.73	21.60
0.9706	25.19	24.22	23.83	23.47	23.29	23.13	22.90	22.51	22.22	21.95	21.81	21.68
0.9705	25.28	24.31	23.92	23.56	23.38	23.22	22.98	22.59	22.30	22.03	21.89	21.76
0.9704	25.38	24.40	24.00	23.64	23.46	23.30	23.06	22.67	22.38	22.10	21.96	21.83
0.9703	25.47	24.49	24.09	23.73	23.55	23.38	23.14	22.75	22.46	22.18	22.04	21.91
0.9702	25.57	24.58	24.18	23.81	23.63	23.46	23.21	22.83	22.53	22.25	22.11	21.98
0.9701	25.66	24.66	24.26	23.89	23.71	23.54	23.30	22.90	22.61	22.33	22.19	22.06
0.9700	25.75	24.75	24.35	23.98	23.80	23.63	23.38	22.98	22.69	22.41	22.27	22.14
0.9699	25.85	25.84	24.44	24.06	23.88	23.72	23.46	23.06	22.77	22.48	22.34	22.21
0.9698	25.94	26.93	24.53	24.15	23.97	23.80	23.54	23.14	22.84	22.55	22.42	22.28
0.9697	26.04	25.01	24.61	24.23	24.05	23.88	23.62	23.22	22.92	22.63	22.49	22.35
0.9696	26.13	25.10	24.69	24.31	24.13	23.96	23.70	23.30	23.00	22.71	22.57	22.43
0.9695	26.22	25.19	24.78	24.40	24.22	24.05	23.78	23.38	23.08	22.78	22.64	22.50
0.9694	26.31	25.28	24.86	24.48	24.30	24.13	23.86	23.45	23.15	22.86	22.72	22.58
0.9693	26.41	25.36	24.95	24.57	24.38	24.21	23.94	23.53	23.23	22.94	22.80	22.66
0.9692	26.50	25.45	25.04	24.65	24.47	24.29	24.02	23.61	23.31	23.01	22.87	22.74
0.9691	26.59	25.54	25.13	24.74	24.55	24.37	24.10	23.69	23.38	23.08	22.95	22.81
0.9690	26.69	25.62	25.21	24.82	24.63	24.45	24.10	23.77	23.46	23.16	23.02	22.88
0.9689	26.78	25.71	25.29	24.90	24.72	24.53	24.18	23.84	23.53	23.23	23.10	22.96
0.9688	26.87	25.80	25.38	24.98	24.80	24.61	24.26	23.92	23.61	23.31	23.17	23.03
0.9687	26.96	25.89	25.46	25.07	24.88	24.69	24.34	24.00	23.68	23.38	23.24	23.10
0.9686	27.05	25.98	25.55	25.15	24.97	24.77	24.42	24.08	23.76	23.46	23.32	23.18
0.9685	27.15	26.06	25.63	25.23	25.05	24.85	24.50	24.16	23.84	23.53	23.39	23.25
0.9684	27.24	26.15	25.72	25.32	25.13	24.94	24.58	24.23	23.92	23.61	23.47	23.33
0.9683	27.33	26.24	25.80	25.40	25.21	25.02	24.66	24.31	23.99	23.68	23.54	23.40
0.9682	27.42	26.33	25.89	25.48	25.29	25.10	24.74	24.39	24.06	23.75	23.61	23.47
0.9681	27.51	26.41	25.97	25.57	25.37	25.18	24.81	24.47	24.14	23.83	23.69	23.54
0.9680	27.60	26.50	26.06	25.65	25.45	25.26	24.89	24.54	24.21	23.90	23.76	23.61
0.9679	27.69	26.59	26.16	25.73	25.53	25.34	24.97	24.62	24.30	23.98	23.84	23.69
0.9678	27.78	26.67	26.22	25.81	25.61	25.42	25.05	24.70	24.37	24.06	23.91	23.77
0.9677	27.87	26.76	26.31	25.89	25.69	25.50	25.13	24.78	24.45	24.14	23.99	23.84
0.9676	27.96	26.84	26.39	25.97	25.77	25.58	25.21	24.85	24.52	24.21	24.06	23.91
0.9675	28.05	26.93	26.47	26.05	25.85	25.66	25.29	24.93	24.60	24.29	24.13	23.99
0.9674	28.14	27.01	26.56	26.14	25.94	25.74	25.37	25.01	24.68	24.36	24.21	24.06
0.9673	28.23	27.10	26.64	26.22	26.02	25.82	25.45	25.09	24.75	24.43	24.28	24.13
0.9672	28.32	17.19	26.73	26.30	26.10	25.90	25.53	25.16	24.83	24.51	24.36	24.20
0.9671	28.41	27.27	26.81	26.38	26.18	25.98	25.60	25.24	24.90	24.58	24.43	24.28
0.9670	28.50	27.36	26.89	26.46	26.26	26.06	25.68	25.32	24.98	24.66	24.50	24.35
0.9669	28.59	27.44	26.97	26.54	26.34	26.14	25.76	25.40	25.06	24.73	24.58	24.42
0.9668	28.68	27.52	27.05	26.63	26.42	26.22	25.84	25.47	25.13	24.81	24.65	24.50
0.9667	28.77	27.61	27.14	26.71	26.50	26.30	25.92	25.55	25.20	24.88	24.73	24.57

表 A.1(续)

单位为%vol

相对密度	温度/℃											
	15.56/15.56	20/20	22/22	24/24	25/25	26/26	28/28	30/30	32/32	34/34	35/35	36/36
0.9666	28.86	27.69	27.22	26.79	26.58	26.38	25.99	25.63	25.28	24.95	24.80	24.64
0.9665	28.95	27.77	27.30	26.87	26.66	26.46	26.07	25.70	25.36	25.03	24.87	24.72
0.9664	29.04	27.86	27.39	26.95	26.74	26.54	26.15	25.78	25.44	25.11	24.95	24.79
0.9663	29.12	27.94	27.47	27.03	26.82	26.62	26.23	25.86	25.51	25.18	25.02	24.86
0.9662	29.21	28.02	27.55	27.11	26.90	26.70	26.31	25.94	25.59	25.25	25.09	24.93
0.9661	29.30	28.11	27.64	27.19	26.98	26.77	26.38	26.02	25.66	25.33	25.17	25.01
0.9660	29.39	28.19	27.72	27.27	27.06	26.85	26.46	26.09	25.74	25.40	25.24	25.08
0.9659	29.47	28.28	27.81	27.35	27.13	26.93	26.54	26.17	25.82	25.48	25.31	25.15
0.9658	29.56	28.36	27.89	27.43	27.21	27.01	26.61	26.24	25.89	25.56	25.39	25.23
0.9657	29.65	28.44	27.97	27.51	27.29	27.09	26.69	26.32	25.97	25.63	25.46	25.30
0.9656	29.74	28.53	28.05	27.59	27.37	27.17	26.77	26.39	26.04	25.70	25.53	25.37
0.9655	29.82	28.61	28.13	27.67	27.45	27.25	26.85	26.47	26.11	25.77	25.61	25.45
0.9654	29.91	28.69	28.21	27.75	27.53	27.33	26.93	26.55	26.19	25.85	25.68	25.52
0.9653	30.00	28.78	28.29	27.83	27.61	27.41	27.00	26.62	26.26	25.92	25.75	25.59
0.9652	30.09	28.86	28.37	27.91	27.69	27.49	27.08	26.70	26.34	25.99	25.82	25.66
0.9651	30.17	28.94	28.45	27.99	27.77	27.56	27.16	26.78	26.41	26.06	25.90	25.74
0.9650	30.26	29.03	28.53	28.07	27.85	27.64	27.23	26.85	26.49	26.14	25.97	25.81
0.9649	30.34	29.11	28.61	28.15	27.93	27.72	27.31	26.92	26.56	26.21	26.04	25.89
0.9648	30.43	29.19	28.69	28.23	28.01	27.79	27.38	27.00	26.64	26.29	26.11	25.96
0.9647	30.52	29.27	28.73	28.31	28.09	27.87	27.46	27.07	26.71	26.36	26.19	26.03
0.9646	30.60	29.35	28.85	28.39	28.16	27.95	27.53	27.15	26.78	26.43	26.26	26.10
0.9645	30.69	29.44	28.93	28.47	28.24	28.03	27.61	27.22	26.85	26.50	26.33	26.17
0.9644	30.78	29.52	29.02	28.55	28.32	28.10	27.69	27.30	26.93	26.58	26.40	26.24
0.9643	30.86	29.60	29.10	28.63	28.40	28.18	27.76	27.37	27.00	26.65	26.47	26.31
0.9642	30.95	29.68	29.18	28.71	28.47	28.26	27.84	27.44	27.07	26.72	26.54	26.38
0.9641	31.03	29.76	29.26	28.79	28.55	28.34	27.91	27.52	27.14	26.79	26.61	26.45
0.9640	31.11	29.85	29.34	28.86	28.63	28.41	27.99	27.59	27.22	26.86	26.69	26.52
0.9639	31.20	29.93	29.42	28.93	28.71	28.49	28.06	27.67	27.29	26.93	26.76	26.59
0.9638	31.28	30.01	29.50	29.01	28.78	28.56	28.14	27.74	27.37	27.01	26.83	26.66
0.9637	31.36	30.09	29.58	29.09	28.86	28.64	28.21	27.81	27.44	27.08	26.90	26.73
0.9636	31.44	30.17	29.66	29.17	28.94	28.72	28.29	27.89	27.51	27.15	26.97	26.80
0.9635	31.52	30.25	29.74	29.25	29.02	28.80	28.37	27.96	27.58	27.22	27.04	26.87
0.9634	31.61	30.34	29.82	29.33	29.09	28.87	28.44	28.04	27.66	27.29	27.11	26.94
0.9633	31.69	30.42	29.90	29.41	29.17	28.95	28.52	28.11	27.73	27.36	27.18	27.01
0.9632	31.77	30.50	29.98	29.49	29.25	29.03	28.60	28.19	27.80	27.43	27.25	27.08
0.9631	31.85	30.58	30.06	29.57	29.33	29.11	28.67	28.26	27.87	27.50	27.32	27.15
0.9630	31.93	30.66	30.13	29.64	29.40	29.18	28.74	28.33	27.95	27.58	27.39	27.22
0.9629	32.02	30.74	30.21	29.72	29.48	29.26	28.82	28.41	27.95	27.65	27.46	27.29
0.9628	32.09	30.82	30.29	29.79	29.56	29.33	28.89	28.48	28.02	27.72	27.54	27.36
0.9627	32.17	30.89	30.36	29.87	29.64	29.41	28.97	28.56	28.10	27.79	27.61	27.43
0.9626	32.25	30.97	30.44	29.95	29.71	29.48	29.04	28.63	28.17	27.86	27.68	27.50
0.9625	32.33	31.05	30.52	30.03	29.79	29.56	29.12	28.70	28.24	27.93	27.75	27.57
0.9624	32.41	31.13	30.60	30.10	29.87	29.64	29.20	28.78	28.31	28.00	27.82	27.64



表 A.1(续)

单位为%vol

相对密度	温度/℃											
	15.56/15.56	20/20	22/22	24/24	25/25	26/26	28/28	30/30	32/32	34/34	35/35	36/36
0.9623	32.49	31.20	30.67	30.17	29.95	29.71	29.27	28.85	28.38	28.07	27.89	27.71
0.9622	32.57	31.28	30.75	30.25	30.02	29.79	29.35	28.93	28.45	28.14	27.96	27.78
0.9621	32.65	31.36	30.83	30.33	30.10	29.86	29.42	29.00	28.52	28.21	28.03	27.85
0.9620	32.72	31.44	30.91	30.41	30.17	29.94	29.50	29.07	28.59	28.29	28.10	27.92
0.9619	32.80	31.52	—	—	30.25	30.01	29.57	29.14	28.67	28.36	28.17	27.99
0.9618	32.88	31.59	—	—	30.32	30.09	29.65	29.22	28.74	28.43	28.24	28.06
0.9617	32.96	31.67	—	—	<b>30.40</b>	<b>30.16</b>	29.72	29.29	28.82	28.50	28.31	28.13
0.9616	33.04	31.75	—	—	30.47	30.24	<b>29.79</b>	29.36	28.89	28.57	28.38	28.20
0.9615	33.12	31.82	—	—	30.54	30.31	29.86	<b>29.43</b>	28.96	28.64	28.45	28.27
0.9614	33.19	31.90	—	—	30.62	31.39	<b>29.94</b>	29.51	29.03	28.71	28.52	28.34
0.9613	33.27	<b>31.98</b>	—	—	30.69	30.46	30.01	<b>29.58</b>	29.10	28.78	28.59	28.41
0.9612	33.35	<b>32.05</b>	—	—	30.77	30.53	30.08	<b>29.65</b>	29.17	28.85	28.66	28.48
0.9611	33.43	<b>32.13</b>	—	—	<b>30.84</b>	<b>30.61</b>	<b>30.15</b>	29.72	29.24	28.92	28.73	28.55
0.9610	33.50	<b>32.21</b>	—	—	<b>30.92</b>	<b>30.69</b>	<b>30.23</b>	29.80	29.31	<b>28.99</b>	28.80	28.62
0.9609	33.58	32.28	—	—	<b>30.99</b>	<b>30.75</b>	<b>30.30</b>	<b>29.87</b>	29.39	29.06	28.87	28.69
0.9608	33.66	<b>32.36</b>	—	—	<b>31.07</b>	<b>30.83</b>	<b>30.38</b>	<b>29.94</b>	29.46	29.13	28.94	28.76
0.9607	33.74	32.43	—	—	31.13	30.90	<b>30.45</b>	<b>30.01</b>	29.53	29.20	29.01	28.83
0.9606	33.81	32.51	—	—	31.21	30.98	<b>30.52</b>	<b>30.09</b>	29.60	29.27	29.08	28.90
0.9605	33.89	32.58	—	—	<b>31.29</b>	<b>31.05</b>	<b>30.59</b>	<b>30.16</b>	29.67	29.34	29.15	28.97
0.9604	33.97	32.66	—	—	<b>31.36</b>	<b>31.13</b>	<b>30.66</b>	<b>30.23</b>	29.74	29.41	29.22	29.04
0.9603	34.05	32.73	—	—	31.43	31.20	30.73	<b>30.30</b>	29.81	29.48	29.29	29.11
0.9602	34.12	32.81	—	—	<b>31.51</b>	<b>31.28</b>	<b>30.80</b>	<b>30.37</b>	29.88	29.55	29.36	29.18
0.9601	34.20	32.88	—	—	<b>31.58</b>	<b>31.35</b>	<b>30.88</b>	<b>30.44</b>	29.95	29.62	29.43	29.25
0.9600	34.27	32.96	—	—	31.65	31.42	<b>30.95</b>	<b>30.51</b>	30.02	29.69	29.50	29.31
0.9599	34.35	33.03	—	—	31.73	—	—	<b>30.58</b>	30.09	29.76	29.57	29.38
0.9598	34.42	33.10	—	—	<b>31.80</b>	—	—	<b>30.65</b>	30.16	29.83	29.63	29.45
0.9597	34.50	<b>33.18</b>	—	—	<b>31.87</b>	—	—	<b>30.72</b>	30.23	29.90	29.70	29.51
0.9596	34.57	<b>33.25</b>	—	—	<b>31.95</b>	—	—	<b>30.79</b>	30.30	29.97	29.77	29.58
0.9595	34.65	<b>33.32</b>	—	—	32.02	—	—	<b>30.87</b>	<b>30.37</b>	<b>30.04</b>	29.84	29.65
0.9594	34.72	<b>33.40</b>	—	—	32.09	—	—	30.94	30.44	30.11	29.91	29.72
0.9593	34.80	<b>33.47</b>	—	—	32.16	—	—	31.01	30.51	30.18	29.98	29.79
0.9592	34.87	<b>33.54</b>	—	—	32.23	—	—	31.08	30.58	30.25	30.05	29.86
0.9591	34.95	33.62	—	—	32.30	—	—	31.15	30.65	30.32	30.12	29.93
0.9590	35.02	33.69	—	—	32.37	—	—	31.22	30.72	30.38	30.18	29.99
0.9589	35.09	33.76	—	—	32.44	—	—	31.28	30.79	—	30.25	30.06
0.9588	35.17	33.84	—	—	32.51	—	—	31.35	—	—	30.33	30.13
0.9587	35.24	33.91	—	—	32.58	—	—	31.42	—	—	30.39	30.20
0.9586	35.31	33.98	—	—	32.65	—	—	31.49	—	—	30.46	30.27
0.9585	35.38	34.05	—	—	32.73	—	—	31.56	—	—	30.52	30.33
0.9584	35.46	34.12	—	—	32.80	—	—	31.63	—	—	30.59	30.40
0.9583	35.53	34.20	—	—	32.87	—	—	31.70	—	—	30.66	30.47
0.9582	35.60	34.27	—	—	32.94	—	—	31.77	—	—	30.73	30.54
0.9581	35.67	34.34	—	—	33.01	—	—	31.84	—	—	30.80	30.61

表 A.2 不同温度下酒精溶液相对密度与酒精度对照表(相对密度范围 0.9580~0.8601)

单位为 %vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.9580	35.75	34.41	33.08	31.91	30.86	0.9535	38.84	37.49	36.12	34.90	33.78
0.9579	35.82	34.48	33.15	31.98	30.93	0.9534	38.91	37.56	36.18	34.96	33.85
0.9578	35.89	34.56	33.22	32.05	31.00	0.9533	38.97	37.62	36.25	35.03	33.91
0.9577	35.96	34.63	33.29	32.11	31.07	0.9532	39.04	37.69	36.31	35.09	33.97
0.9576	36.04	34.70	33.36	32.18	31.13	0.9531	39.10	37.75	36.38	35.15	34.04
0.9575	36.11	34.77	33.43	32.25	31.20	0.9530	39.17	37.82	36.44	35.22	34.10
0.9574	36.18	34.84	33.50	32.32	31.26	0.9529	39.23	37.88	36.51	35.28	34.16
0.9573	36.25	34.91	33.57	32.38	31.33	0.9528	39.30	37.95	36.57	35.34	34.22
0.9572	36.32	34.98	33.64	32.45	31.39	0.9527	39.36	38.01	36.64	35.41	34.29
0.9571	36.39	35.05	33.71	32.52	31.46	0.9526	39.43	38.07	36.70	35.47	34.35
0.9570	36.46	35.12	33.78	32.58	31.53	0.9525	39.49	38.14	36.77	35.53	34.41
0.9569	36.53	35.19	33.85	32.65	31.59	0.9524	39.56	38.20	36.83	35.59	34.47
0.9568	36.60	35.26	33.92	32.72	31.66	0.9523	39.62	38.27	36.90	35.66	34.53
0.9567	36.67	35.33	33.99	32.79	31.72	0.9522	39.69	38.33	36.96	35.72	34.60
0.9566	36.74	35.40	34.05	32.85	31.79	0.9521	39.75	38.39	37.02	35.78	34.66
0.9565	36.81	35.47	34.12	32.92	31.86	0.9520	39.82	38.46	37.09	35.85	34.72
0.9564	36.88	35.54	34.19	32.99	31.92	0.9519	39.88	38.52	37.15	35.91	34.78
0.9563	36.95	35.61	34.26	33.05	31.99	0.9518	39.95	38.59	37.21	35.97	34.84
0.9562	37.02	35.68	34.32	33.12	32.05	0.9517	40.01	38.65	37.28	36.04	34.91
0.9561	37.09	35.75	34.39	33.19	32.12	0.9516	40.08	38.72	37.30	36.10	34.97
0.9560	37.16	35.82	34.46	33.25	32.18	0.9515	40.14	38.78	37.40	36.16	35.04
0.9559	37.22	35.88	34.53	33.32	32.25	0.9514	40.20	38.84	37.46	36.22	35.10
0.9558	37.29	35.95	34.59	33.39	32.31	0.9513	40.27	38.91	37.52	36.28	35.16
0.9557	37.36	36.02	34.66	33.45	32.37	0.9512	40.33	38.97	37.59	36.35	35.22
0.9556	37.43	36.09	34.73	33.52	32.44	0.9511	40.39	39.04	37.65	36.41	35.28
0.9555	37.50	36.15	34.80	33.59	32.50	0.9510	40.46	39.10	37.71	36.47	35.34
0.9554	37.56	36.22	34.86	33.65	32.57	0.9509	40.52	39.16	37.78	36.53	35.40
0.9553	37.63	36.29	34.93	33.72	32.63	0.9508	40.58	3.23	37.84	36.59	35.46
0.9552	37.70	36.36	35.00	33.79	32.70	0.9507	40.65	39.29	37.90	36.65	35.52
0.9551	37.77	36.42	35.07	33.85	32.76	0.9506	40.71	39.35	37.96	36.72	35.58
0.9550	37.84	36.49	35.13	33.92	32.83	0.9505	40.77	39.41	38.02	36.78	35.64
0.9549	37.90	36.56	35.20	33.99	32.89	0.9504	40.84	39.48	38.09	36.84	35.71
0.9548	37.97	36.63	35.26	34.05	32.95	0.9503	40.90	39.54	38.15	36.90	35.77
0.9547	38.04	36.69	35.33	34.12	33.02	0.9502	40.96	39.60	38.21	36.96	35.83
0.9546	38.10	36.76	35.39	34.18	33.08	0.9501	41.02	39.67	38.27	37.02	35.89
0.9545	38.17	36.83	35.46	34.25	33.15	0.9500	41.09	39.73	38.33	37.09	35.95
0.9544	38.24	36.89	35.53	34.31	33.21	0.9499	41.15	39.79	38.40	37.15	36.01
0.9543	38.31	36.96	35.59	34.38	33.27	0.9498	41.21	39.85	38.46	37.21	36.07
0.9542	38.37	37.03	35.66	34.44	33.34	0.9497	41.27	39.91	38.52	37.27	36.13
0.9541	38.44	37.09	35.72	34.51	33.40	0.9496	41.33	39.98	38.58	37.33	36.19
0.9540	38.51	37.16	35.79	34.57	33.46	0.9495	41.40	40.04	38.64	37.39	36.25
0.9539	38.57	37.23	35.86	34.64	33.53	0.9494	41.46	40.10	38.70	37.45	36.31
0.9538	38.64	37.29	35.92	34.70	33.59	0.9493	41.52	40.16	38.77	37.51	36.37
0.9537	38.71	37.36	35.99	34.77	33.66	0.9492	41.58	40.22	38.83	37.57	36.43
0.9536	38.77	37.42	36.05	34.83	33.72	0.9491	41.64	40.29	38.89	37.63	36.49

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.9490	41.70	40.35	38.95	37.70	36.55	0.9445	44.39	43.04	41.63	40.35	39.19
0.9489	41.77	40.41	39.01	37.76	36.61	0.9444	44.45	43.09	41.69	40.41	39.24
0.9488	41.83	40.47	39.07	37.82	36.67	0.9443	44.50	43.15	41.75	40.47	39.30
0.9487	41.89	40.53	39.13	37.88	36.73	0.9442	44.56	43.21	41.80	40.53	39.36
0.9486	41.95	40.59	39.20	37.94	36.79	0.9441	44.62	43.27	41.86	40.58	39.41
0.9485	42.01	40.65	39.26	38.00	36.85	0.9440	44.68	43.33	41.92	60.64	39.47
0.9484	42.07	40.71	39.32	38.06	36.91	0.9439	44.73	43.39	41.98	60.70	39.53
0.9483	42.13	40.78	39.38	38.12	36.97	0.9438	44.79	43.44	42.03	60.75	39.64
0.9482	42.19	40.84	39.44	38.18	37.03	0.9437	44.85	43.50	42.09	60.81	39.70
0.9481	42.25	40.90	39.50	38.24	37.09	0.9436	44.91	43.56	42.15	60.87	39.76
0.9480	42.31	40.96	39.56	38.30	37.15	0.9435	44.97	43.62	42.21	60.93	39.81
0.9479	42.37	41.02	39.62	38.36	37.21	0.9434	45.02	43.67	42.26	60.98	39.87
0.9478	42.43	41.08	39.68	38.42	37.26	0.9433	45.08	43.73	42.32	41.04	39.93
0.9477	42.49	41.14	39.74	38.48	37.32	0.9432	45.14	43.78	43.38	41.10	39.98
0.9476	42.55	41.20	39.80	38.54	37.38	0.9431	45.19	43.85	42.43	41.15	40.04
0.9475	42.61	41.26	39.87	38.60	37.44	0.9430	45.25	43.90	42.49	41.21	40.09
0.9474	42.67	41.32	39.93	38.66	37.50	0.9429	45.31	43.96	42.55	41.27	40.15
0.9473	42.73	41.38	39.99	38.72	37.56	0.9428	45.36	44.02	42.61	41.32	40.21
0.9472	42.80	41.44	40.05	38.78	37.62	0.9427	45.42	44.07	42.66	41.38	40.26
0.9471	42.86	41.50	40.11	38.84	37.68	0.9426	45.48	44.13	42.72	41.44	40.32
0.9470	42.92	41.56	40.17	38.90	37.74	0.9425	45.53	44.18	42.78	41.49	40.37
0.9469	42.98	41.62	40.22	38.96	37.79	0.9424	45.59	44.24	42.83	41.55	40.45
0.9468	43.04	41.68	40.28	39.02	37.85	0.9423	45.64	44.30	42.89	41.60	40.43
0.9467	43.09	41.74	40.34	39.08	37.91	0.9422	45.70	44.35	42.95	41.66	40.48
0.9466	43.15	41.80	40.40	39.13	37.97	0.9421	45.76	44.41	43.01	41.72	40.54
0.9465	43.21	41.86	40.46	39.19	38.03	0.9420	45.81	44.46	43.06	41.77	40.59
0.9464	43.27	41.92	40.52	39.25	38.09	0.9419	45.87	44.52	43.12	41.83	40.65
0.9463	43.33	41.98	40.58	39.31	38.15	0.9418	45.93	44.58	43.17	41.89	40.71
0.9462	43.39	42.04	40.64	39.37	38.20	0.9417	45.98	44.63	43.23	41.94	40.76
0.9461	43.45	42.09	40.70	39.43	38.26	0.9416	46.04	44.69	43.29	42.00	40.82
0.9460	43.51	42.15	40.76	39.49	38.32	0.9415	46.09	44.74	43.34	42.06	40.87
0.9459	43.57	42.21	40.82	39.54	38.38	0.9414	46.15	44.80	43.40	42.11	40.93
0.9458	43.63	42.27	40.88	39.60	38.44	0.9413	46.20	44.86	43.46	42.17	40.98
0.9457	43.69	42.33	40.93	39.66	38.49	0.9412	46.26	44.91	43.51	42.22	41.04
0.9456	43.75	42.39	40.99	39.72	38.55	0.9411	46.31	44.97	43.57	42.28	41.09
0.9455	43.80	42.45	41.05	39.78	38.61	0.9410	46.37	45.03	43.62	42.33	41.15
0.9454	43.86	42.51	41.11	39.84	38.67	0.9409	46.43	45.08	43.68	42.39	41.20
0.9453	43.92	42.57	41.17	39.89	38.73	0.9408	46.48	45.14	43.74	42.44	41.26
0.9452	43.98	42.63	41.23	39.95	38.78	0.9407	46.54	45.19	43.79	42.50	41.31
0.9451	44.04	42.69	41.28	40.01	38.84	0.9406	46.59	45.25	43.85	42.56	41.37
0.9450	44.10	42.74	41.34	40.07	38.90	0.9405	46.65	45.30	43.90	42.61	41.62
0.9449	44.16	42.80	41.40	40.13	38.96	0.9404	46.70	45.36	43.96	42.67	41.48
0.9448	44.21	42.86	41.46	40.18	39.02	0.9403	46.76	45.42	44.02	42.72	41.53
0.9447	44.27	42.92	41.51	40.24	39.07	0.9402	46.81	45.47	44.07	42.78	41.59
0.9446	44.33	42.98	41.57	40.30	39.13	0.9401	46.87	45.53	44.13	42.83	41.64

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.9400	46.92	45.58	44.18	42.89	41.70	0.9355	49.32	48.00	46.61	45.32	44.13
0.9399	46.98	45.64	44.23	42.94	41.75	0.9354	49.37	48.05	46.66	45.37	44.18
0.9398	47.03	45.69	44.29	43.00	41.81	0.9353	49.42	48.10	46.71	45.43	44.23
0.9397	47.09	45.74	44.34	43.05	41.86	0.9352	49.47	48.15	46.77	45.48	44.28
0.9396	47.14	45.80	44.40	43.11	41.92	0.9351	49.52	48.21	46.82	45.53	44.34
0.9395	47.19	45.85	44.45	43.16	41.97	0.9350	49.58	48.26	46.87	45.58	44.39
0.9394	47.25	45.91	44.51	43.22	42.03	0.9349	49.63	48.31	46.93	45.64	44.44
0.9393	47.30	45.96	44.56	43.27	42.08	0.9348	49.68	48.36	46.98	45.69	44.49
0.9392	47.35	46.01	44.62	43.33	42.14	0.9347	49.73	48.41	47.03	45.74	44.54
0.9391	47.41	46.07	44.67	43.38	42.19	0.9346	49.78	48.47	47.08	45.79	44.60
0.9390	47.46	46.12	44.73	43.44	42.24	0.9345	49.83	48.52	47.14	45.85	44.65
0.9389	47.52	46.18	44.78	43.49	42.30	0.9344	49.89	48.57	47.19	45.90	44.70
0.9388	47.57	46.23	44.84	43.55	42.35	0.9343	49.94	48.62	47.24	45.95	44.75
0.9387	47.62	46.29	44.89	43.60	42.41	0.9342	49.99	48.68	47.29	46.01	44.81
0.9386	47.68	46.34	44.95	43.66	42.46	0.9341	50.04	48.73	47.34	46.06	44.86
0.9385	47.73	46.39	45.00	43.71	42.52	0.9340	50.09	48.78	47.40	46.11	44.91
0.9384	47.78	46.45	45.05	43.77	42.57	0.9339	50.14	48.83	47.45	46.16	44.96
0.9383	47.84	46.50	45.11	43.82	42.63	0.9338	50.19	48.88	47.50	46.21	45.02
0.9382	47.89	46.56	45.16	43.87	42.68	0.9337	50.25	48.94	47.55	46.27	45.07
0.9381	47.95	46.61	45.22	43.93	42.73	0.9336	50.30	48.99	47.60	46.32	45.12
0.9380	48.00	46.67	45.27	43.98	42.79	0.9335	50.35	49.04	47.66	46.37	45.17
0.9379	48.05	46.72	45.32	44.04	42.84	0.9334	50.40	49.09	47.71	46.42	45.22
0.9378	48.11	46.77	45.38	44.09	42.90	0.9333	50.45	49.14	47.76	46.47	45.27
0.9377	48.16	46.83	45.43	44.15	42.95	0.9332	50.50	49.19	47.81	46.53	45.33
0.9376	48.21	46.88	45.48	44.20	43.01	0.9331	50.55	49.25	47.86	46.58	45.38
0.9375	48.26	46.94	45.54	44.25	43.06	0.9330	50.60	49.30	47.92	46.63	45.43
0.9374	48.32	46.99	45.59	44.31	43.11	0.9329	50.65	49.35	47.97	46.68	45.48
0.9373	48.37	47.04	45.65	44.36	43.17	0.9328	50.70	49.40	48.02	46.73	45.53
0.9372	48.42	47.10	45.70	44.41	43.22	0.9327	50.75	49.45	48.07	46.79	45.59
0.9371	48.48	47.15	45.75	44.47	43.27	0.9326	50.81	49.50	48.12	46.84	45.64
0.9370	48.53	47.20	45.81	44.52	43.33	0.9325	50.86	49.55	48.17	46.89	45.69
0.9369	48.58	47.26	45.86	44.58	43.38	0.9324	50.91	49.60	48.22	46.94	45.74
0.9368	48.63	47.31	45.91	44.63	43.43	0.9323	50.96	49.65	48.28	46.99	45.79
0.9367	48.69	47.36	45.97	44.68	43.49	0.9322	51.01	49.70	48.33	47.05	45.84
0.9366	48.74	47.42	46.02	44.74	43.54	0.9321	51.06	49.75	48.38	47.10	45.90
0.9365	48.79	47.47	46.07	44.79	43.59	0.9320	51.11	49.80	48.43	47.15	45.95
0.9364	48.85	47.52	46.13	44.84	43.65	0.9319	51.16	49.85	48.48	47.20	46.00
0.9363	48.90	47.58	46.18	44.90	43.70	0.9318	51.21	49.90	48.53	47.25	46.05
0.9362	48.95	47.63	46.23	44.95	43.75	0.9317	51.26	49.95	48.58	47.30	46.10
0.9361	49.01	47.68	46.29	45.01	43.81	0.9316	51.31	50.00	48.63	47.35	46.15
0.9360	49.06	47.73	46.34	45.06	43.86	0.9315	51.36	50.05	48.68	47.40	46.20
0.9359	49.11	47.79	46.39	45.11	43.91	0.9314	51.41	50.10	48.73	47.45	46.26
0.9358	49.16	47.84	46.45	45.16	43.97	0.9313	51.46	50.16	48.79	47.50	46.31
0.9357	49.21	47.89	46.50	45.22	44.02	0.9312	51.51	50.21	48.84	47.55	46.36
0.9356	49.26	47.94	46.55	45.27	44.07	0.9311	51.56	50.26	48.89	47.60	46.41

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.9310	51.61	50.31	48.94	47.65	46.46	0.9265	53.84	52.54	51.08	49.91	48.71
0.9309	51.66	50.36	48.99	47.71	46.51	0.9264	53.89	52.59	51.23	49.96	48.76
0.9308	51.71	50.41	49.04	47.76	46.56	0.9263	53.94	52.64	51.27	50.00	48.81
0.9307	51.76	50.46	49.09	47.81	46.61	0.9262	53.99	52.69	51.32	50.05	48.86
0.9306	51.81	50.51	49.14	47.86	46.66	0.9261	54.03	52.74	51.37	50.10	48.91
0.9305	51.86	50.56	49.19	47.91	46.71	0.9260	54.08	52.79	51.42	50.15	48.96
0.9304	51.91	50.61	49.24	47.96	46.77	0.9259	54.13	52.84	51.47	50.20	49.01
0.9303	51.96	50.66	49.29	48.01	46.82	0.9258	54.18	52.89	51.52	50.25	49.06
0.9302	52.01	50.71	49.34	48.06	46.87	0.9257	54.23	52.93	51.57	50.30	49.11
0.9301	52.06	50.76	49.39	48.11	46.92	0.9256	54.28	52.98	51.62	50.35	49.15
0.9330	52.11	50.81	49.44	48.46	46.97	0.9255	54.32	53.03	51.67	50.40	49.20
0.9299	52.16	50.86	49.49	48.21	47.02	0.9254	54.37	53.08	51.72	50.44	49.25
0.9298	52.21	50.91	49.54	48.26	47.07	0.9253	54.42	53.13	51.78	50.49	49.30
0.9297	52.26	50.96	49.59	48.31	47.12	0.9252	54.47	53.18	51.81	50.54	49.35
0.9296	52.31	51.01	49.64	48.36	47.17	0.9251	54.52	53.22	51.86	50.59	49.40
0.9295	52.36	51.06	49.69	48.41	47.22	0.9250	54.57	53.27	51.91	50.64	49.44
0.9294	52.41	51.11	49.74	48.46	47.27	0.9249	54.61	53.32	51.96	50.69	49.49
0.9293	52.46	51.16	49.79	48.51	47.32	0.9248	54.66	53.37	52.01	50.74	49.54
0.9292	52.51	51.21	49.84	48.56	47.37	0.9247	54.71	53.42	52.06	50.79	49.59
0.9291	52.56	51.26	49.89	48.61	47.42	0.9246	54.76	53.47	52.11	50.83	49.64
0.9290	52.61	51.31	49.94	48.66	47.47	0.9245	54.81	53.52	52.16	50.88	49.69
0.9289	52.66	51.36	49.99	48.71	47.52	0.9244	54.86	53.56	52.20	50.93	49.73
0.9288	52.71	51.41	50.04	48.76	47.57	0.9243	54.90	53.61	52.25	50.98	49.78
0.9287	52.76	51.46	50.09	48.81	47.62	0.9242	54.95	53.66	52.30	51.03	49.83
0.9286	52.81	51.50	50.14	48.86	47.67	0.9241	55.00	53.71	52.35	51.08	49.88
0.9285	52.86	51.55	50.19	48.91	47.72	0.9240	55.05	53.76	52.40	51.13	49.93
0.9284	52.91	51.60	50.24	48.96	47.77	0.9239	55.10	53.81	52.45	51.17	49.98
0.9283	52.96	51.65	50.29	49.01	47.82	0.9238	55.14	53.85	52.50	51.22	50.02
0.9282	53.00	51.70	50.34	49.06	47.87	0.9237	55.19	53.90	52.54	51.27	50.07
0.9281	53.05	51.75	50.39	49.11	47.92	0.9236	55.24	53.95	52.59	51.32	50.12
0.9280	53.10	51.80	50.44	49.16	47.97	0.9235	55.29	54.00	52.64	51.37	50.17
0.9279	53.15	51.85	50.49	49.21	48.02	0.9234	55.33	54.05	52.69	51.42	50.22
0.9278	53.20	51.90	50.54	49.26	48.07	0.9233	55.38	54.09	52.74	51.46	50.27
0.9277	53.25	51.95	50.59	49.31	48.12	0.9232	55.43	54.14	52.79	51.51	50.31
0.9276	53.30	52.00	50.64	49.36	48.17	0.9231	55.48	54.19	52.83	51.56	50.36
0.9275	53.35	52.05	50.68	49.41	48.22	0.9230	55.52	54.24	52.88	51.61	50.41
0.9274	53.40	52.10	50.73	49.46	48.27	0.9229	55.57	54.29	52.93	51.66	50.46
0.9273	53.45	52.15	50.78	49.51	48.32	0.9228	55.62	54.33	52.98	51.71	50.51
0.9272	53.50	52.20	50.83	49.56	48.37	0.9227	55.67	54.38	53.03	51.75	50.56
0.9271	53.54	52.25	50.88	49.61	48.42	0.9226	55.71	54.43	53.08	51.80	50.60
0.9270	53.59	52.29	50.93	49.66	48.47	0.9225	55.76	54.48	53.12	51.85	50.65
0.9269	53.64	52.34	50.98	49.71	48.52	0.9224	55.81	54.53	53.17	51.90	50.70
0.9268	53.69	52.39	51.03	49.76	48.57	0.9223	55.86	54.57	53.22	51.95	50.75
0.9267	53.74	52.44	51.08	49.81	48.62	0.9222	55.90	54.62	53.27	52.00	50.80
0.9266	53.79	52.49	51.13	49.86	48.67	0.9221	55.95	54.67	53.31	52.04	50.85

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.9220	56.00	54.72	53.36	52.09	50.89	0.9175	58.11	56.84	55.49	54.21	53.02
0.9219	56.05	54.77	53.41	52.14	50.94	0.9174	58.16	56.88	55.53	54.26	56.07
0.9218	56.09	54.81	53.46	52.19	50.99	0.9173	58.20	56.93	55.58	54.31	53.12
0.9217	56.14	54.86	53.50	52.23	51.04	0.9172	58.25	56.97	55.63	54.36	53.16
0.9216	56.19	54.91	53.55	52.28	51.09	0.9171	58.29	57.02	55.67	54.40	53.21
0.9215	56.24	54.96	53.60	52.33	51.13	0.9170	58.34	57.07	55.72	54.45	53.26
0.9214	56.28	55.00	53.65	52.38	51.18	0.9169	58.38	57.11	55.77	54.50	53.30
0.9213	56.33	55.05	53.70	52.43	51.23	0.9168	58.43	57.16	55.81	54.54	53.35
0.9212	56.38	55.10	53.74	52.47	51.27	0.9167	58.47	57.21	55.96	54.59	53.40
0.9211	56.43	55.15	53.79	52.52	51.32	0.9166	58.52	57.25	55.91	54.64	53.44
0.9210	56.47	55.19	53.84	52.57	51.37	0.9165	58.57	57.30	55.95	54.68	53.49
0.9209	56.52	55.24	53.89	52.62	51.42	0.9164	58.61	57.35	56.00	54.73	53.53
0.9208	56.57	55.29	53.93	52.67	51.46	0.9163	58.66	57.39	56.05	54.78	53.58
0.9207	56.62	55.34	53.98	52.71	51.51	0.9162	58.70	57.44	56.09	54.82	53.63
0.9206	56.66	55.38	54.03	52.76	51.56	0.9161	58.75	57.48	56.14	54.87	53.67
0.9205	56.71	55.43	54.08	52.81	51.61	0.9160	58.79	57.53	56.18	54.92	53.72
0.9204	56.76	55.48	54.12	52.86	51.65	0.9159	58.84	57.58	56.23	54.96	53.77
0.9203	56.81	55.53	54.17	52.90	51.70	0.9158	58.89	57.62	56.28	55.01	53.81
0.9202	56.85	55.57	54.22	52.95	51.75	0.9157	58.93	57.67	56.32	55.06	53.86
0.9201	56.90	55.62	54.26	53.00	51.80	0.9156	58.98	57.71	56.37	55.10	53.91
0.9200	56.95	55.67	54.31	53.05	51.84	0.9155	59.02	57.76	56.41	55.15	53.95
0.9199	57.00	55.71	54.36	53.09	51.89	0.9154	59.07	57.81	56.46	55.19	54.00
0.9198	57.04	55.76	54.41	53.14	51.94	0.9153	59.11	57.85	56.51	55.24	54.05
0.9197	57.09	55.81	54.45	53.19	51.99	0.9152	59.16	57.90	56.55	55.29	54.09
0.9196	57.13	55.86	54.50	53.23	52.03	0.9151	59.20	57.94	56.60	55.33	54.14
0.9195	57.18	55.90	54.55	53.28	52.08	0.9150	59.25	57.99	56.65	55.38	54.18
0.9194	57.23	55.95	54.59	53.33	52.13	0.9149	59.29	58.03	56.69	55.42	54.23
0.9193	57.27	56.00	54.64	53.37	52.17	0.9148	59.34	58.08	56.74	55.47	54.28
0.9192	57.32	56.04	54.69	53.42	52.22	0.9147	59.38	58.13	56.78	55.52	54.32
0.9191	57.37	56.09	54.71	53.47	52.27	0.9146	59.43	58.17	56.83	55.56	54.37
0.9190	57.41	56.14	54.78	53.51	52.32	0.9145	59.47	58.22	56.88	55.61	54.41
0.9189	57.46	56.18	54.83	53.56	52.36	0.9144	59.52	58.26	56.92	55.65	54.46
0.9288	57.51	56.23	54.88	53.61	52.41	0.9143	59.56	58.31	56.97	55.70	54.51
0.9187	57.55	56.28	54.92	53.65	52.46	0.9142	59.61	58.35	57.01	55.75	54.55
0.9186	57.60	56.32	54.97	53.70	52.50	0.9141	59.65	58.40	57.06	55.79	54.60
0.9185	57.65	56.37	55.02	53.75	52.55	0.9140	59.70	58.44	57.10	55.84	54.65
0.9184	57.69	56.42	55.07	53.79	52.60	0.9139	59.74	58.49	57.15	55.88	54.69
0.9183	57.74	56.46	55.11	53.84	52.65	0.9138	59.79	58.53	57.20	55.93	54.74
0.9182	57.79	56.51	55.16	53.89	52.69	0.9137	59.83	58.58	57.24	55.98	54.78
0.9181	57.83	56.56	55.21	53.93	52.74	0.9136	59.88	58.62	57.29	56.02	54.83
0.9180	57.88	56.60	55.25	53.98	52.79	0.9135	59.92	58.67	57.33	56.07	54.88
0.9179	57.93	56.65	55.30	54.03	52.83	0.9134	59.97	58.71	57.38	56.11	54.92
0.9178	57.97	56.70	55.35	54.07	52.88	0.9133	60.01	58.76	57.42	56.16	54.97
0.9177	58.02	56.74	55.39	54.12	52.93	0.9132	60.06	58.80	57.47	56.21	55.01
0.9176	58.06	56.79	55.44	54.17	52.98	0.9131	60.10	58.85	57.51	56.25	55.06

表 A.2(续)

单位为% vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.9130	60.15	58.89	57.56	56.30	55.11	0.9085	62.14	60.90	59.58	58.33	57.15
0.9129	60.19	58.94	57.60	56.34	55.15	0.9084	62.18	60.94	59.63	58.38	57.19
0.9128	60.24	58.98	57.65	56.39	55.20	0.9083	62.23	60.99	59.67	58.42	57.24
0.9127	60.28	59.03	57.70	56.44	55.24	0.9082	62.27	61.03	59.71	58.46	57.28
0.9126	60.33	59.07	57.74	56.48	55.29	0.9081	62.31	61.08	59.76	58.51	57.33
0.9125	60.37	59.12	57.79	56.53	55.33	0.9080	62.36	61.12	59.80	58.55	57.37
0.9124	60.42	59.16	57.83	56.57	55.38	0.9079	62.40	61.17	59.85	58.60	57.42
0.9123	60.46	59.21	57.88	56.62	55.42	0.9078	62.45	61.21	59.89	58.64	57.46
0.9122	60.50	59.25	57.92	56.67	55.47	0.9077	62.49	61.25	59.94	58.69	57.50
0.9121	60.55	59.30	57.97	56.71	55.52	0.9076	62.53	61.30	59.98	58.73	57.55
0.9120	60.59	59.34	58.01	56.76	55.56	0.9075	62.58	61.34	60.03	58.77	57.59
0.9119	60.64	59.39	58.06	56.80	55.61	0.9074	62.62	61.39	60.07	58.82	57.64
0.9118	60.68	59.43	58.10	56.85	55.65	0.9073	62.66	61.43	60.11	58.86	57.68
0.9117	60.73	59.48	58.15	56.89	55.70	0.9072	62.71	61.47	60.16	58.91	57.73
0.9116	60.77	59.52	58.19	56.94	55.74	0.9071	62.75	61.52	60.20	58.95	57.77
0.9115	60.82	59.57	58.24	56.99	55.79	0.9070	62.79	61.56	60.25	59.00	57.81
0.9114	60.86	59.61	58.28	57.03	55.84	0.9069	62.84	61.60	60.29	59.04	57.86
0.9113	60.91	59.66	58.33	57.08	55.88	0.9068	62.88	61.65	60.33	59.08	57.90
0.9112	60.95	59.70	58.37	57.12	55.93	0.9067	62.93	61.69	60.38	59.13	57.95
0.9111	61.00	59.75	58.42	57.17	55.97	0.9066	62.97	61.74	60.42	59.17	57.99
0.9110	61.04	59.79	58.46	57.21	56.02	0.9065	63.01	61.78	60.46	59.21	58.04
0.9109	61.08	59.84	58.51	57.26	56.06	0.9064	63.06	61.82	60.51	59.26	58.08
0.9108	61.13	59.88	58.55	57.30	56.11	0.9063	63.10	61.87	60.55	59.30	58.12
0.9107	61.17	59.92	58.60	57.35	56.15	0.9062	63.14	61.91	60.60	59.35	58.17
0.9106	61.22	59.97	58.64	57.39	56.20	0.9061	63.19	61.96	60.64	59.39	58.21
0.9105	61.26	60.01	58.69	57.44	56.25	0.9060	63.23	62.00	60.68	59.43	58.26
0.9104	61.30	60.06	58.73	57.48	56.29	0.9059	63.27	62.04	60.73	59.48	58.30
0.9103	61.35	60.10	58.78	57.53	56.34	0.9058	63.32	62.09	60.77	59.52	58.34
0.9102	61.39	60.15	58.82	57.57	56.38	0.9057	63.36	62.13	60.82	59.57	58.39
0.9101	61.44	60.19	58.87	57.62	56.43	0.9056	63.40	62.17	60.86	59.61	58.43
0.9100	61.48	60.24	58.91	57.66	56.47	0.9055	63.45	62.22	60.90	59.65	58.48
0.9099	61.52	60.28	58.96	57.71	56.52	0.9054	63.49	62.26	60.95	59.70	58.52
0.9098	61.57	60.33	59.00	57.75	56.56	0.9053	63.53	62.30	60.99	59.74	58.56
0.9097	61.61	60.37	59.04	57.80	56.61	0.9052	63.58	62.35	61.03	59.79	58.61
0.9096	61.66	60.41	59.09	57.84	56.65	0.9051	63.62	62.39	61.08	59.83	58.65
0.9095	61.70	60.46	59.13	57.89	56.70	0.9050	63.66	62.43	61.12	59.87	58.70
0.9094	61.74	60.50	59.18	57.93	56.75	0.9049	63.71	62.48	61.16	59.92	58.74
0.9093	61.79	60.55	59.22	57.98	56.79	0.9048	63.75	62.52	61.21	59.96	58.78
0.9092	61.83	60.59	59.27	58.02	56.84	0.9047	63.79	62.56	61.25	60.00	58.83
0.9091	61.88	60.64	59.31	58.07	56.88	0.9046	63.84	62.60	61.29	60.05	58.87
0.9090	61.92	60.68	59.36	58.11	56.93	0.9045	63.88	62.65	61.34	60.09	58.92
0.9089	61.96	60.72	59.40	58.15	56.97	0.9044	63.92	62.69	61.38	60.14	58.96
0.9088	62.01	60.77	59.45	58.20	57.02	0.9043	63.97	62.73	61.42	60.18	59.00
0.9087	62.05	60.81	59.49	58.24	57.06	0.9042	64.01	62.78	61.47	60.22	59.05
0.9086	62.10	60.86	59.53	58.29	57.11	0.9041	64.05	62.82	61.51	60.27	59.09

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.9040	64.09	62.86	61.55	60.31	59.13	0.8995	66.02	64.79	63.49	62.26	61.08
0.9039	64.14	62.91	61.60	60.35	59.18	0.8994	66.06	64.84	63.53	62.30	61.12
0.9038	64.18	62.95	61.64	60.40	59.22	0.8993	66.10	64.88	63.57	62.34	61.16
0.9037	64.22	62.99	61.68	60.44	59.27	0.8992	66.15	64.92	63.62	62.38	61.21
0.9036	64.27	63.04	61.73	60.48	59.31	0.8991	66.19	64.96	63.66	62.43	61.25
0.9035	64.31	63.08	61.77	60.53	59.35	0.8990	66.23	65.01	63.70	62.47	61.29
0.9034	64.35	63.12	61.81	60.57	59.40	0.8989	66.27	65.05	63.74	62.51	61.33
0.9033	64.40	63.17	61.86	60.62	59.44	0.8988	66.31	65.09	63.79	62.55	61.38
0.9032	64.44	63.21	61.90	60.66	59.48	0.8987	66.36	65.13	63.83	62.60	61.42
0.9031	64.48	63.25	61.94	60.70	59.53	0.8986	66.40	65.18	63.87	62.64	61.46
0.9030	64.53	63.30	61.99	60.75	59.57	0.8985	66.44	65.22	63.91	62.68	61.50
0.9029	64.57	63.34	62.03	60.79	59.61	0.8984	66.48	65.26	63.96	62.72	61.55
0.9028	64.61	63.38	62.07	60.83	59.66	0.8983	66.52	65.30	64.00	62.77	61.59
0.9027	64.66	63.43	62.12	60.88	59.70	0.8982	66.56	65.35	64.04	62.81	61.63
0.9026	64.70	63.47	62.16	60.92	59.74	0.8981	66.61	65.39	64.08	62.85	61.68
0.9025	64.74	63.51	62.20	60.97	59.79	0.8980	66.65	65.43	64.13	62.89	61.72
0.9024	64.78	63.56	62.24	61.01	59.83	0.8979	66.69	65.47	64.17	62.94	61.76
0.9023	64.83	63.60	62.29	61.05	59.87	0.8978	66.73	65.51	64.21	62.98	61.80
0.9022	64.87	63.64	62.33	61.09	59.92	0.8977	66.77	65.56	64.25	63.02	61.85
0.9021	64.91	63.69	62.37	61.14	59.96	0.8976	66.82	65.60	64.30	63.06	61.89
0.9020	64.96	63.73	62.42	61.18	60.00	0.8975	66.86	65.64	64.34	63.11	61.93
0.9019	65.00	63.77	62.46	61.22	60.05	0.8974	66.90	65.68	64.38	63.15	61.97
0.9018	65.04	63.82	62.50	61.27	60.09	0.8973	66.94	65.72	64.42	63.19	62.02
0.9017	65.09	63.86	62.55	61.31	60.13	0.8972	66.98	65.77	64.47	63.23	62.06
0.9016	65.13	63.90	62.59	61.35	60.18	0.8971	67.03	65.81	64.51	63.28	62.10
0.9015	65.17	63.94	62.63	61.40	60.22	0.8970	67.07	65.85	64.55	63.32	62.14
0.9014	65.21	63.99	62.67	61.44	60.26	0.8969	67.11	65.89	64.59	63.36	62.19
0.9013	65.26	64.03	62.72	61.48	60.30	0.8968	67.15	65.94	64.64	63.40	62.23
0.9012	65.30	64.07	62.76	61.53	60.35	0.8967	67.19	65.98	64.68	63.44	62.27
0.9011	65.34	64.11	62.80	61.57	60.39	0.8966	67.23	66.02	64.72	63.49	62.31
0.9010	65.38	64.16	62.85	61.61	60.43	0.8965	67.28	66.06	64.76	63.53	62.36
0.9009	65.43	64.20	62.89	61.66	60.48	0.8964	67.32	66.10	64.81	63.57	62.40
0.9008	65.47	64.24	62.93	61.70	60.52	0.8963	67.36	66.15	64.85	63.61	62.44
0.9007	65.51	64.28	62.97	61.74	60.56	0.8962	67.40	66.19	64.89	63.66	62.48
0.9006	65.55	64.33	63.02	61.78	60.61	0.8961	67.44	66.23	64.93	63.70	62.53
0.9005	65.60	64.37	63.06	61.83	60.65	0.8960	67.48	66.27	64.97	63.74	62.57
0.9004	65.64	64.41	63.10	61.87	60.69	0.8959	67.53	66.31	65.02	63.78	62.61
0.9003	65.68	64.45	63.15	61.91	60.73	0.8958	67.57	66.36	65.06	63.83	62.65
0.9002	65.72	64.50	63.19	61.96	60.78	0.8957	67.61	66.40	65.10	63.87	62.69
0.9001	65.77	64.54	63.23	62.00	60.82	0.8956	67.65	66.44	65.14	63.91	62.74
0.9000	65.81	64.58	63.27	62.04	60.86	0.8955	67.69	66.48	65.18	63.95	62.78
0.8999	65.85	64.62	63.32	62.09	60.91	0.8954	67.73	66.52	65.23	64.00	62.82
0.8998	65.89	64.67	63.36	62.13	60.95	0.8953	67.78	66.56	65.27	64.04	62.86
0.8997	65.94	64.71	63.40	62.17	60.99	0.8952	67.82	66.60	65.31	64.08	62.91
0.8996	65.98	64.75	63.44	62.21	61.03	0.8951	67.86	66.65	65.35	64.12	62.95



表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.8950	67.90	66.69	65.39	64.16	62.99	0.8905	69.74	68.54	67.26	66.04	64.87
0.8949	67.94	66.73	65.44	64.21	63.03	0.8904	69.78	68.58	67.30	66.08	64.92
0.8948	67.98	66.77	65.48	64.25	63.08	0.8903	69.82	68.62	67.34	66.12	64.96
0.8947	68.02	66.81	65.52	64.29	63.12	0.8902	69.86	68.67	67.39	66.17	65.00
0.8946	68.07	66.85	65.56	64.33	63.16	0.8901	69.90	68.71	67.43	66.21	65.04
0.8945	68.11	66.90	65.60	64.37	63.20	0.8900	69.94	68.75	67.47	66.25	65.08
0.8944	68.15	66.94	65.64	64.42	63.24	0.8899	69.98	68.79	67.51	66.29	65.12
0.8943	68.19	66.98	65.69	64.46	63.28	0.8898	70.02	68.83	67.55	66.33	65.17
0.8942	68.23	67.02	65.73	64.50	63.33	0.8897	70.06	68.87	67.59	66.37	65.21
0.8941	68.27	67.06	65.77	64.54	63.37	0.8896	70.10	68.91	67.63	66.41	65.25
0.8940	68.31	67.10	65.81	64.58	63.41	0.8895	70.14	68.95	67.67	66.45	65.29
0.8939	68.35	67.15	65.85	64.63	63.45	0.8894	70.18	68.99	67.71	66.50	65.33
0.8938	68.39	67.19	65.90	64.67	63.49	0.8893	70.22	69.03	67.75	66.54	65.37
0.8937	68.43	67.23	65.94	64.71	63.54	0.8892	70.27	69.07	67.80	66.58	65.41
0.8936	68.48	67.27	65.98	64.75	63.58	0.8891	70.31	69.11	67.84	66.62	65.45
0.8935	68.52	67.31	66.02	64.79	63.62	0.8890	70.35	69.15	67.88	66.66	65.50
0.8934	68.56	67.35	66.06	64.84	63.66	0.8889	70.39	69.19	67.92	66.70	65.54
0.8933	68.60	67.39	66.10	64.88	63.70	0.8888	70.43	69.23	67.96	66.74	65.58
0.8932	68.64	67.43	66.15	64.92	63.74	0.8887	70.47	69.27	68.00	66.79	65.62
0.8931	68.68	67.47	66.19	64.96	63.79	0.8886	70.51	69.32	68.04	66.83	65.66
0.8930	68.72	67.52	66.23	65.00	63.83	0.8885	70.55	69.36	68.08	66.87	65.70
0.8929	68.76	67.56	66.27	65.05	63.87	0.8884	70.59	69.40	68.12	66.91	65.74
0.8928	68.80	67.60	66.31	65.09	63.91	0.8883	70.63	69.44	68.16	66.95	65.79
0.8927	68.84	67.64	66.35	65.13	63.95	0.8882	70.67	69.48	68.20	66.99	65.83
0.8926	68.89	67.68	66.39	65.17	64.00	0.8881	70.71	69.52	68.24	67.03	65.87
0.8925	68.93	67.72	66.44	65.21	64.04	0.8880	70.75	69.56	68.28	67.07	65.91
0.8924	68.97	67.76	66.48	65.25	64.08	0.8879	70.79	69.60	68.33	67.11	65.95
0.8923	69.01	67.80	66.52	65.29	64.12	0.8878	70.83	69.64	68.37	67.15	65.99
0.8922	69.05	67.84	66.56	65.34	64.16	0.8877	70.87	69.68	68.41	67.20	66.03
0.8921	69.09	67.89	66.60	65.38	64.21	0.8876	70.91	69.72	68.45	67.24	66.07
0.8920	69.13	67.93	66.64	65.42	64.25	0.8875	70.95	69.76	68.49	67.28	66.11
0.8919	69.17	67.97	66.68	65.46	64.29	0.8874	70.99	69.80	68.53	67.32	66.16
0.8918	69.21	68.01	66.73	65.50	64.33	0.8873	71.03	69.84	68.57	67.36	66.20
0.8917	69.25	68.05	66.77	65.54	64.37	0.8872	71.07	69.88	68.61	67.40	66.24
0.8916	69.29	68.09	66.81	65.59	64.41	0.8871	71.11	69.92	68.65	67.44	66.28
0.8915	69.33	68.13	66.85	65.63	64.46	0.8870	71.15	69.96	68.69	67.48	66.32
0.8914	69.37	68.17	66.89	65.67	64.50	0.8869	71.19	70.00	68.73	67.52	66.36
0.8913	69.41	68.21	66.93	65.71	64.54	0.8868	71.23	70.04	68.77	67.56	66.40
0.8912	69.46	68.26	66.98	65.75	64.58	0.8867	71.27	70.08	68.81	67.60	66.44
0.8911	69.50	68.30	67.02	65.79	64.62	0.8866	71.31	70.12	68.85	67.64	66.48
0.8910	69.54	68.34	67.06	65.83	64.67	0.8865	71.35	70.16	68.89	67.68	66.52
0.8909	69.58	68.38	67.10	65.88	64.71	0.8864	71.38	70.20	68.93	67.72	66.56
0.8908	69.62	68.42	67.14	65.92	64.75	0.8863	71.42	70.24	68.98	67.76	66.60
0.8907	69.66	68.46	67.18	65.96	64.79	0.8862	71.46	70.28	69.02	67.80	66.64
0.8906	69.70	68.50	67.22	66.00	64.83	0.8861	71.50	70.32	69.06	67.85	66.69

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.8860	71.54	70.36	69.10	67.89	66.73	0.8815	73.31	72.14	70.89	69.69	68.54
0.8859	71.58	70.40	69.14	67.93	66.77	0.8814	73.35	72.18	70.93	69.73	68.58
0.8858	71.62	70.44	69.18	67.97	66.81	0.8813	73.39	72.22	70.97	69.77	68.62
0.8857	71.66	70.48	69.22	68.01	66.85	0.8812	73.43	72.26	71.01	69.81	68.66
0.8856	71.70	70.52	69.26	68.05	66.89	0.8811	73.47	72.30	71.05	69.85	68.70
0.8855	71.74	70.56	69.30	68.09	66.93	0.8810	73.50	72.34	71.09	69.89	68.74
0.8854	71.78	70.60	69.34	68.13	66.97	0.8809	73.54	72.38	71.13	69.93	68.78
0.8853	71.82	70.64	69.38	68.17	67.01	0.8808	73.58	72.42	71.16	69.97	68.82
0.8852	71.86	70.68	69.42	68.21	67.05	0.8807	73.62	72.46	71.20	70.01	68.86
0.8851	71.90	70.72	69.46	68.25	67.09	0.8806	73.66	72.50	71.24	70.05	68.90
0.8850	71.94	70.76	69.50	68.29	67.13	0.8805	73.70	72.53	71.28	70.09	68.94
0.8849	71.98	70.80	69.54	68.33	67.17	0.8804	73.74	72.57	71.32	70.13	68.98
0.8848	72.02	70.84	69.58	68.37	67.21	0.8803	73.78	72.61	71.36	70.17	69.02
0.8847	72.06	70.88	69.62	68.41	67.25	0.8802	73.81	72.65	71.40	70.21	69.06
0.8846	72.10	70.92	69.66	68.45	67.29	0.8801	73.85	72.69	71.44	70.25	69.10
0.8845	72.14	70.96	69.70	68.49	67.33	0.8800	73.89	72.73	71.48	70.29	69.14
0.8844	72.18	71.00	69.74	68.53	67.37	0.8799	73.93	72.77	71.52	70.33	69.18
0.8843	72.22	71.04	69.78	68.57	67.41	0.8798	73.97	72.81	71.56	70.37	69.22
0.8842	72.25	71.08	69.82	68.61	67.45	0.8797	74.01	72.85	71.60	70.41	69.26
0.8841	72.29	71.12	69.86	68.65	67.49	0.8796	74.05	72.88	71.64	70.44	69.30
0.8840	72.33	71.16	69.90	68.69	67.53	0.8795	74.08	72.92	71.67	70.48	69.34
0.8839	72.37	71.20	69.94	68.73	67.57	0.8794	74.12	72.96	71.71	70.52	69.38
0.8838	72.41	71.24	69.98	68.77	67.61	0.8793	74.16	73.00	71.75	70.56	69.42
0.8837	72.45	71.27	70.02	68.81	67.65	0.8792	74.20	73.04	71.79	70.60	69.45
0.8836	72.49	71.31	70.06	68.85	67.69	0.8791	74.24	73.08	71.83	70.64	69.49
0.8835	72.53	71.35	70.10	68.89	67.73	0.8790	74.28	73.12	71.87	70.68	69.53
0.8834	72.57	71.39	70.13	68.93	67.77	0.8789	74.32	73.16	71.91	70.72	69.57
0.8833	72.61	71.43	70.17	68.97	67.81	0.8788	74.36	73.19	71.95	70.76	69.61
0.8832	72.65	71.47	70.21	69.01	67.85	0.8787	74.39	73.23	71.99	70.80	69.65
0.8831	72.69	71.51	70.25	69.05	67.89	0.8786	74.43	73.27	72.03	70.84	69.69
0.8830	72.73	71.55	70.29	69.09	67.93	0.8785	74.47	73.31	72.07	70.88	69.73
0.8829	72.76	71.59	70.33	69.13	67.97	0.8784	74.51	73.35	72.11	70.92	69.77
0.8828	72.80	71.63	70.37	69.17	68.01	0.8783	74.55	73.39	72.14	70.96	69.81
0.8827	72.84	71.67	70.41	69.21	68.05	0.8782	74.59	73.43	72.18	71.00	69.85
0.8826	72.88	71.71	70.45	69.25	68.09	0.8781	74.63	73.47	72.22	71.04	69.89
0.8825	72.92	71.75	70.49	69.29	68.13	0.8780	74.66	73.50	72.26	71.07	69.93
0.8824	72.96	71.79	70.53	69.33	68.17	0.8779	74.70	73.54	72.30	71.11	69.97
0.8823	73.00	71.83	70.57	69.37	68.21	0.8778	74.74	73.58	72.34	71.15	70.01
0.8822	73.04	71.87	70.61	69.41	68.25	0.8777	74.78	73.62	72.38	71.19	70.05
0.8821	73.08	71.91	70.65	69.45	68.29	0.8776	74.82	73.66	72.42	71.23	70.09
0.8820	73.12	71.95	70.69	69.49	68.33	0.8775	74.86	73.70	72.46	71.27	70.13
0.8819	73.16	71.99	70.73	69.53	68.37	0.8774	74.90	73.74	72.49	71.31	70.16
0.8818	73.19	72.03	70.77	69.57	68.41	0.8773	74.93	73.78	72.53	71.35	70.20
0.8817	73.23	72.07	70.81	69.61	68.45	0.8772	74.97	73.81	72.57	71.39	70.24
0.8816	73.27	72.10	70.85	69.65	68.49	0.8771	75.01	73.85	72.61	71.42	70.28

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.8770	75.05	73.89	72.65	71.46	70.32	0.8725	76.75	75.61	74.38	73.20	72.07
0.8769	75.09	73.93	72.69	71.50	70.36	0.8724	76.79	75.65	74.42	73.24	72.11
0.8768	75.13	73.97	72.73	71.54	70.40	0.8723	76.82	75.69	74.46	73.28	72.15
0.8767	75.16	74.01	72.77	71.58	70.44	0.8722	76.86	75.73	74.50	73.32	72.19
0.8766	75.20	74.05	72.81	71.62	70.48	0.8721	76.90	75.76	74.53	73.35	72.23
0.8765	75.24	74.08	72.84	71.66	70.52	0.8720	76.94	75.80	74.57	73.39	72.27
0.8764	75.28	74.12	72.88	71.70	70.56	0.8719	76.97	75.84	74.61	73.43	72.30
0.8763	75.32	74.16	72.92	71.74	70.60	0.8718	77.01	75.88	74.65	73.47	72.34
0.8762	75.35	74.20	72.96	71.77	70.64	0.8717	77.05	75.91	74.69	73.51	72.38
0.8761	75.39	74.24	73.00	71.81	70.67	0.8716	77.09	75.95	74.73	73.55	72.42
0.8760	75.43	74.28	73.04	71.85	70.71	0.8715	77.12	75.99	74.76	73.58	72.46
0.8759	75.47	74.32	73.08	71.89	70.75	0.8714	77.16	76.03	74.80	73.62	72.50
0.8758	75.51	74.35	73.12	71.93	70.79	0.8713	77.20	76.06	74.84	73.66	72.53
0.8757	75.54	74.39	73.15	71.97	70.83	0.8712	77.23	76.10	74.88	73.70	72.57
0.8756	75.58	74.43	73.19	72.01	70.87	0.8711	77.27	76.14	74.92	73.74	72.61
0.8755	75.62	74.47	73.23	72.05	70.91	0.8710	77.31	76.18	74.95	73.77	72.65
0.8754	75.66	74.51	73.27	72.08	70.95	0.8709	77.34	76.22	74.99	73.81	72.69
0.8753	75.70	74.55	73.31	72.12	70.99	0.8708	77.38	76.25	75.03	73.85	72.73
0.8752	75.73	74.58	73.35	72.16	71.03	0.8707	77.42	76.29	75.07	73.89	72.77
0.8751	75.77	74.62	73.38	72.20	71.07	0.8706	77.46	76.33	75.10	73.93	72.80
0.8750	75.81	74.66	73.42	72.24	71.10	0.8705	77.49	76.37	75.14	73.97	72.84
0.8749	75.85	74.70	73.46	72.28	71.14	0.8704	77.53	76.40	75.18	74.00	72.88
0.8748	75.89	74.74	73.50	72.32	71.18	0.8703	77.57	76.44	75.22	74.04	72.92
0.8747	75.92	74.77	73.54	72.36	71.22	0.8702	77.60	76.48	75.25	74.08	72.96
0.8746	75.96	74.81	73.58	72.39	71.26	0.8701	77.64	76.52	75.29	74.12	73.00
0.8745	76.00	74.85	73.62	72.43	71.30	0.8700	77.68	76.55	75.33	74.16	73.03
0.8744	76.04	74.89	73.65	72.47	71.34	0.8699	77.71	76.59	75.37	74.19	73.07
0.8743	76.07	74.93	73.69	72.51	71.38	0.8698	77.75	76.63	75.40	74.23	73.11
0.8742	76.11	74.97	73.73	72.55	71.41	0.8697	77.79	76.66	75.44	74.27	73.15
0.8741	76.15	75.00	73.77	72.59	71.45	0.8696	77.83	76.70	75.48	74.31	73.19
0.8740	76.19	75.04	73.81	72.63	71.49	0.8695	77.86	76.74	75.52	74.35	73.22
0.8739	76.22	75.08	73.85	72.66	71.53	0.8694	77.90	76.78	75.55	74.38	73.26
0.8738	76.26	75.12	73.88	72.70	71.57	0.8693	77.94	76.81	75.59	74.42	73.30
0.8737	76.30	75.16	73.92	72.74	71.61	0.8692	77.97	76.85	75.63	74.46	73.34
0.8736	76.34	75.19	73.96	72.78	71.65	0.8691	78.01	76.89	75.67	74.50	73.38
0.8735	76.37	75.23	74.00	72.82	71.69	0.8690	78.05	76.92	75.70	74.54	73.41
0.8734	76.41	75.27	74.04	72.86	71.72	0.8689	78.08	76.96	75.74	74.57	73.45
0.8733	76.45	75.31	74.08	72.90	71.76	0.8688	78.12	77.00	75.78	74.61	73.49
0.8732	76.49	75.35	74.11	72.93	71.80	0.8687	78.16	77.03	75.82	74.65	73.53
0.8731	76.52	75.38	74.15	72.97	71.84	0.8686	78.19	77.07	75.85	74.69	73.56
0.8730	76.56	75.42	74.19	73.01	71.88	0.8685	78.23	77.11	75.89	74.73	73.60
0.8729	76.60	75.46	74.23	73.05	71.92	0.8684	78.27	77.14	75.93	74.76	73.64
0.8728	76.64	75.50	74.27	73.09	71.96	0.8683	78.30	77.18	75.97	74.80	73.68
0.8727	76.67	75.54	74.31	73.13	72.00	0.8682	78.34	77.22	76.00	74.84	73.72
0.8726	76.71	75.57	74.34	73.16	72.03	0.8681	78.38	77.26	76.04	74.88	73.75

表 A.2(续)

单位为%vol

相对密度	温度/℃					相对密度	温度/℃				
	15.56/15.56	20/20	25/25	30/30	35/35		15.56/15.56	20/20	25/25	30/30	35/35
0.8680	78.41	77.29	76.08	74.92	73.79	0.8640	79.87	78.76	77.56	76.41	75.29
0.8679	78.45	77.33	76.12	74.95	73.83	0.8639	79.90	78.79	77.60	76.44	75.33
0.8678	78.49	77.37	76.15	74.99	73.87	0.8638	79.94	78.83	77.63	76.48	75.37
0.8677	78.52	77.40	76.19	75.03	73.91	0.8637	79.97	78.86	77.67	76.52	75.41
0.8676	78.56	77.44	76.23	75.07	73.94	0.8636	80.01	78.90	77.71	76.56	75.44
0.8675	78.60	77.48	76.26	75.10	73.98	0.8635	80.05	78.94	77.74	76.59	75.48
0.8674	78.63	77.51	76.30	75.14	74.02	0.8634	80.08	78.97	77.78	76.63	75.52
0.8673	78.67	77.55	76.34	75.18	74.06	0.8633	80.12	79.01	77.82	76.67	75.56
0.8672	78.71	77.59	76.38	75.22	74.09	0.8632	80.15	79.05	77.85	76.70	75.59
0.8671	78.74	77.62	76.41	75.25	74.13	0.8631	80.19	79.08	77.89	76.74	75.63
0.8670	78.78	77.66	76.45	75.29	74.17	0.8630	80.22	79.12	77.93	76.78	75.67
0.8669	78.82	77.70	76.49	75.33	74.21	0.8629	80.26	79.16	77.96	76.81	75.71
0.8668	78.85	77.73	76.53	75.37	74.24	0.8628	80.30	79.19	78.00	76.85	75.74
0.8667	78.89	77.77	76.56	75.40	74.28	0.8627	80.33	79.23	78.04	76.89	75.78
0.8666	78.93	77.81	76.60	75.44	74.32	0.8626	80.37	79.26	78.07	76.93	75.82
0.8665	78.96	77.84	76.64	75.48	74.36	0.8625	80.40	79.30	78.11	76.96	75.85
0.8664	79.00	77.88	76.68	75.51	74.39	0.8624	80.44	79.34	78.14	77.00	75.89
0.8663	79.04	77.92	76.71	75.55	74.43	0.8623	80.47	79.37	78.18	77.04	75.93
0.8662	79.07	77.96	76.75	75.59	74.47	0.8622	80.51	79.41	78.22	77.07	75.97
0.8661	79.11	77.99	76.79	75.63	74.51	0.8621	80.55	79.45	78.25	77.11	76.00
0.8660	79.14	78.03	76.82	75.66	74.55	0.8620	80.58	79.48	78.29	77.15	76.04
0.8659	79.18	78.07	76.86	75.70	74.58	0.8619	80.62	79.52	78.33	77.18	76.08
0.8658	79.22	78.10	76.90	75.74	74.62	0.8618	80.65	79.55	78.36	77.22	76.11
0.8657	79.25	78.14	76.94	75.78	74.66	0.8617	80.69	79.59	78.40	77.26	76.15
0.8656	79.29	78.17	76.97	75.81	74.70	0.8616	80.72	79.63	78.43	77.29	76.19
0.8655	79.32	78.21	77.01	75.85	74.73	0.8615	80.76	79.66	78.47	77.33	76.23
0.8654	79.36	78.25	77.05	75.89	74.77	0.8614	80.80	79.70	78.51	77.36	76.26
0.8653	79.40	78.28	77.08	75.93	74.81	0.8613	80.83	79.73	78.54	77.40	76.30
0.8652	79.43	78.32	77.12	75.96	74.85	0.8612	80.87	79.77	78.58	77.44	76.34
0.8651	79.47	78.36	77.16	76.00	74.88	0.8611	80.90	79.80	78.62	77.47	76.37
0.8650	79.51	78.39	77.19	76.04	74.92	0.8610	80.94	79.84	78.65	77.51	76.41
0.8649	79.54	78.43	77.23	76.07	74.96	0.8609	80.97	79.88	78.69	77.55	76.45
0.8648	79.58	78.47	77.27	76.11	75.00	0.8608	81.01	79.91	78.72	77.58	76.48
0.8647	79.61	78.50	77.30	76.15	75.03	0.8607	81.05	79.95	78.76	77.62	76.52
0.8646	79.65	78.54	77.34	76.19	75.07	0.8606	81.08	79.98	78.80	77.66	76.56
0.8645	79.69	78.57	77.38	76.22	75.11	0.8605	81.12	80.02	78.83	77.69	76.59
0.8644	79.72	78.61	77.41	76.26	75.15	0.8604	81.15	80.05	78.87	77.73	76.63
0.8643	79.76	78.65	77.45	76.30	75.18	0.8603	81.19	80.09	78.91	77.77	76.67
0.8642	79.79	78.68	77.49	76.33	75.22	0.8602	81.22	80.13	78.94	77.80	76.70
0.8641	79.83	78.72	77.52	76.37	75.26	0.8601	81.26	80.16	78.98	77.84	76.74

附 录  
(规范性  
温度 20℃ 时酒精计

表 B.1 温度 20℃ 时酒精计浓度与温度换算表

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
18	20.80	20.66	20.52	20.38	20.25	20.11	19.97	19.83	19.69	19.55	19.41	19.27
18.1	20.92	20.78	20.64	20.50	20.36	20.22	20.08	19.94	19.80	19.66	19.52	19.38
18.2	21.04	20.90	20.76	20.61	20.47	20.33	20.19	20.05	19.91	19.77	19.62	19.48
18.3	21.16	21.01	20.87	20.73	20.59	20.44	20.30	20.16	20.02	19.88	19.73	19.59
18.4	21.28	21.13	20.99	20.84	20.70	20.56	20.41	20.27	20.13	19.98	19.84	19.70
18.5	21.39	21.25	21.10	20.96	20.81	20.67	20.53	20.38	20.24	20.09	19.95	19.80
18.6	21.51	21.37	21.22	21.07	20.93	20.78	20.64	20.49	20.35	20.20	20.06	19.91
18.7	21.63	21.48	21.34	21.19	21.04	20.90	20.75	20.60	20.46	20.31	20.16	20.02
18.8	21.75	21.60	21.45	21.30	21.15	21.01	20.86	20.71	20.57	20.42	20.27	20.13
18.9	21.87	21.72	21.57	21.42	21.27	21.12	20.97	20.82	20.68	20.53	20.38	20.23
19	21.99	21.83	21.68	21.53	21.38	21.23	21.08	20.94	20.79	20.64	20.49	20.34
19.1	22.10	21.95	21.80	21.65	21.50	21.35	21.20	21.05	20.90	20.75	20.60	20.45
19.2	22.22	22.07	21.92	21.76	21.61	21.46	21.31	21.16	21.01	20.85	20.70	20.55
19.3	22.34	22.18	22.03	21.88	21.72	21.57	21.42	21.27	21.12	20.96	20.81	20.66
19.4	22.46	22.30	22.15	21.99	21.84	21.68	21.53	21.38	21.22	21.07	20.92	20.77
19.5	22.57	22.42	22.26	22.11	21.95	21.80	21.64	21.49	21.33	21.18	21.03	20.87
19.6	22.69	22.53	22.38	22.22	22.06	21.91	21.75	21.60	21.44	21.29	21.14	20.98
19.7	22.81	22.65	22.49	22.33	22.18	22.02	21.86	21.71	21.55	21.40	21.24	21.09
19.8	22.93	22.77	22.61	22.45	22.29	22.13	21.98	21.82	21.66	21.51	21.35	21.19
19.9	23.04	22.88	22.72	22.56	22.40	22.25	22.09	21.93	21.77	21.61	21.46	21.30
20	23.16	23.00	22.84	22.68	22.52	22.36	22.20	22.04	21.88	21.72	21.57	21.41
20.1	23.28	23.12	22.95	22.79	22.63	22.47	22.31	22.15	21.99	21.83	21.67	21.52
20.2	23.39	23.23	23.07	22.91	22.74	22.58	22.42	22.26	22.10	21.94	21.78	21.62
20.3	23.51	23.35	23.18	23.02	22.86	22.69	22.53	22.37	22.21	22.05	21.89	21.73
20.4	23.63	23.46	23.30	23.13	22.97	22.81	22.64	22.48	22.32	22.16	22.00	21.83
20.5	23.74	23.58	23.41	23.25	23.08	22.92	22.75	22.59	22.43	22.26	22.10	21.94
20.6	23.86	23.69	23.53	23.36	23.19	23.03	22.86	22.70	22.54	22.37	22.21	22.05
20.7	23.98	23.81	23.64	23.47	23.31	23.14	22.97	22.81	22.65	22.48	22.32	22.15
20.8	24.09	23.92	23.75	23.59	23.42	23.25	23.09	22.92	22.75	22.59	22.42	22.26
20.9	24.21	24.04	23.87	23.70	23.53	23.36	23.20	23.03	22.86	22.70	22.53	22.37
21	24.33	24.15	23.98	23.81	23.64	23.47	23.31	23.14	22.97	22.81	22.64	22.47
21.1	24.44	24.27	24.10	23.93	23.76	23.59	23.42	23.25	23.08	22.91	22.75	22.58
21.2	24.56	24.38	24.21	24.04	23.87	23.70	23.53	23.36	23.19	23.02	22.85	22.69
21.3	24.67	24.50	24.32	24.15	23.98	23.81	23.64	23.47	23.30	23.13	22.96	22.79
21.4	24.79	24.61	24.44	24.26	24.09	23.92	23.75	23.58	23.41	23.24	23.07	22.90
21.5	24.90	24.73	24.55	24.38	24.20	24.03	23.86	23.69	23.51	23.34	23.17	23.01
21.6	25.02	24.84	24.66	24.49	24.31	24.14	23.97	23.79	23.62	23.45	23.28	23.11
21.7	25.13	24.95	24.78	24.60	24.43	24.25	24.08	23.90	23.73	23.56	23.39	23.22

## B

附录)

## 浓度与温度换算表

(温度范围 10℃~22℃, 间隔 0.5℃)

单位为 %vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
19.13	18.99	18.85	18.71	18.57	18.42	18.28	18.14	18.00	17.86	17.72	17.57	17.43
19.23	19.09	18.95	18.81	18.67	18.53	18.39	18.24	18.10	17.93	17.81	17.67	17.53
19.34	19.20	19.06	18.91	18.77	18.63	18.49	18.34	18.20	18.06	17.91	17.77	17.62
19.45	19.30	19.16	19.02	18.88	18.73	18.59	18.44	18.30	18.16	18.01	17.87	17.72
19.55	19.41	19.27	19.12	18.98	18.83	18.69	18.54	18.40	18.26	18.11	17.96	17.82
19.66	19.52	19.37	19.23	19.08	18.94	18.79	18.65	18.50	18.35	18.21	18.06	17.92
19.77	19.62	19.48	19.33	19.18	19.04	18.89	18.75	18.60	18.45	18.31	18.16	18.01
19.87	19.73	19.58	19.43	19.29	19.14	18.99	18.85	18.70	18.55	18.41	18.26	18.11
19.98	19.83	19.68	19.54	19.39	19.24	19.10	18.95	18.80	18.65	18.50	18.36	18.21
20.08	19.94	19.79	19.64	19.49	19.34	19.20	19.05	18.90	18.75	18.60	18.45	18.31
20.19	20.04	19.89	19.74	19.60	19.45	19.30	19.15	19.00	18.85	18.70	18.55	18.40
20.30	20.15	20.00	19.85	19.70	19.55	19.40	19.25	19.10	18.95	18.80	18.65	18.50
20.40	20.25	20.10	19.95	19.80	19.65	19.50	19.35	19.20	19.05	18.90	18.75	18.60
20.51	20.36	20.21	20.06	19.90	19.75	19.60	19.45	19.30	19.15	19.00	18.85	18.69
20.62	20.46	20.31	20.16	20.01	19.86	19.70	19.55	19.40	19.25	19.10	18.94	18.79
20.72	20.57	20.42	20.26	20.11	19.96	19.81	19.65	19.50	19.35	19.19	19.04	18.89
20.83	20.67	20.52	20.37	20.21	20.06	19.91	19.75	19.60	19.45	19.29	19.14	18.99
20.93	20.78	20.62	20.47	20.32	20.16	20.01	19.85	19.70	19.55	19.39	19.24	19.08
21.04	20.88	20.73	20.57	20.42	20.26	20.11	19.95	19.80	19.65	19.49	19.34	19.18
21.25	20.99	20.83	20.68	20.52	20.37	20.21	20.06	19.90	19.74	19.59	19.43	19.28
21.25	21.09	20.94	20.78	20.62	20.47	20.31	20.16	20.00	19.84	19.69	19.53	19.38
21.36	21.20	21.04	20.88	20.73	20.57	20.41	20.26	20.10	19.94	19.79	19.63	19.47
21.46	21.30	21.15	20.99	20.83	20.67	20.51	20.36	20.20	20.04	19.89	19.73	19.57
21.57	21.41	21.25	21.09	20.93	20.77	20.62	20.46	20.30	20.14	19.98	19.83	19.67
21.67	21.51	21.35	21.20	21.04	20.88	20.72	20.56	20.40	20.24	20.08	19.92	19.77
21.78	21.62	21.46	21.30	21.14	20.98	20.82	20.66	20.50	20.34	20.18	20.02	19.86
21.89	21.72	21.56	21.40	21.24	21.08	20.92	20.76	20.60	20.44	20.28	20.12	19.96
21.99	21.83	21.67	21.51	21.34	21.18	21.02	20.86	20.70	20.54	20.38	20.22	20.06
22.10	21.93	21.77	21.61	21.45	21.28	21.12	20.96	20.80	20.64	20.48	20.32	20.16
22.20	22.04	21.88	21.71	21.55	21.39	21.22	21.06	20.90	20.74	20.58	20.41	20.25
22.31	22.14	21.98	21.82	21.65	21.49	21.33	21.16	21.00	20.84	20.68	20.51	20.35
22.41	22.25	22.08	21.92	21.75	21.59	21.43	21.26	21.10	20.94	20.77	20.61	20.45
22.52	22.35	22.19	22.02	21.86	21.69	21.53	21.36	21.20	21.04	20.87	20.71	20.55
22.63	22.46	22.29	22.13	21.96	21.79	21.63	21.46	21.30	21.14	20.97	20.81	20.64
22.73	22.56	22.40	22.23	22.06	21.90	21.73	21.57	21.40	21.23	21.07	20.91	20.74
22.84	22.67	22.50	22.33	22.17	22.00	21.83	21.67	21.50	21.33	21.17	21.00	20.84
22.94	22.77	22.60	22.44	22.27	22.10	21.93	21.77	21.60	21.43	21.27	21.10	20.94
23.05	22.88	22.71	22.54	22.37	22.20	22.03	21.87	21.70	21.53	21.37	21.20	21.03

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
21.8	25.25	25.07	24.89	24.71	24.54	24.36	24.19	24.01	23.84	23.67	23.49	23.32
21.9	25.36	25.18	25.00	24.83	24.65	24.47	24.30	24.12	23.95	23.77	23.60	23.43
22	25.48	25.30	25.12	24.94	24.76	24.58	24.41	24.23	24.06	23.88	23.71	23.54
22.1	25.59	25.41	25.23	25.05	24.87	24.69	24.52	24.34	24.16	23.99	23.81	23.64
22.2	25.70	25.52	25.34	25.16	24.98	24.80	24.62	24.45	24.27	24.10	23.92	23.75
22.3	25.82	25.64	25.45	25.27	25.09	24.91	24.73	24.56	24.38	24.20	24.03	23.85
22.4	25.93	25.75	25.57	25.38	25.20	25.02	24.84	24.67	24.49	24.31	24.13	23.96
22.5	26.05	25.86	25.68	25.50	25.31	25.13	24.95	24.77	24.60	24.42	24.24	24.06
22.6	26.16	25.97	25.79	25.61	25.42	25.24	25.06	24.88	24.70	24.52	24.35	24.17
22.7	26.27	26.09	25.90	25.72	25.53	25.35	25.17	24.99	24.81	24.63	24.45	24.28
22.8	26.39	26.20	26.01	25.83	25.64	25.46	25.28	25.10	24.92	24.74	24.56	24.38
22.9	26.50	26.31	26.12	25.94	25.75	25.57	25.39	25.21	25.03	24.84	24.67	24.49
23	26.61	26.42	26.24	26.05	25.86	25.68	25.50	25.31	25.13	24.95	24.77	24.59
23.1	26.72	26.53	26.35	26.16	25.97	25.79	25.61	25.42	25.24	25.06	24.88	24.70
23.2	26.84	26.65	26.46	26.27	26.08	25.90	25.71	25.53	25.35	25.16	24.98	24.80
23.3	26.95	26.76	26.57	26.38	26.19	26.01	25.82	25.64	25.45	25.27	25.09	24.91
23.4	27.06	26.87	26.68	26.49	26.30	26.12	25.93	25.75	25.56	25.38	25.19	25.01
23.5	27.17	26.98	26.79	26.60	26.41	26.23	26.04	25.85	25.67	25.48	25.30	25.12
23.6	27.28	27.09	26.90	26.71	26.52	26.33	26.15	25.96	25.77	25.59	25.41	25.22
23.7	27.40	27.20	27.01	26.82	26.63	26.44	26.25	26.07	25.88	25.70	25.51	25.33
23.8	27.51	27.31	27.12	26.93	26.74	26.55	26.36	26.17	25.99	25.80	25.62	25.43
23.9	27.62	27.42	27.23	27.04	26.85	26.66	26.47	26.28	26.09	25.91	25.72	25.54
24	27.73	27.54	27.34	27.15	26.96	26.77	26.58	26.39	26.20	26.01	25.83	25.64
24.1	27.84	27.65	27.45	27.26	27.07	26.88	26.69	26.50	26.31	26.12	25.93	25.75
24.2	27.95	27.76	27.56	27.37	27.17	26.98	26.79	26.60	26.41	26.23	26.04	25.85
24.3	28.06	27.87	27.67	27.48	27.28	27.09	26.90	26.71	26.52	26.33	26.14	25.96
24.4	28.17	27.98	27.78	27.59	27.39	27.20	27.01	26.82	26.63	26.44	26.25	26.06
24.5	28.28	28.09	27.89	27.69	27.50	27.31	27.11	26.92	26.73	26.54	26.35	26.17
24.6	28.39	28.19	28.00	27.80	27.61	27.41	27.22	27.03	26.84	26.65	26.46	26.27
24.7	28.50	28.30	28.11	27.91	27.72	27.52	27.33	27.14	26.94	26.75	26.56	26.37
24.8	28.61	28.41	28.22	28.02	27.82	27.63	27.44	27.24	27.05	26.86	26.67	26.48
24.9	28.72	28.52	28.32	28.13	27.93	27.74	27.54	27.35	27.16	26.96	26.77	26.58
25	28.83	28.63	28.43	28.24	28.04	27.84	27.65	27.45	27.26	27.07	26.88	26.69
25.1	28.94	28.74	28.54	28.34	28.15	27.95	27.75	27.56	27.37	27.17	26.98	26.79
25.2	29.05	28.85	28.65	28.45	28.25	28.06	27.86	27.67	27.47	27.28	27.09	26.90
*25.3	29.16	28.96	28.76	28.56	28.36	28.16	27.97	27.77	27.58	27.38	27.19	27.00
25.4	29.27	29.07	28.86	28.67	28.47	28.27	28.07	27.88	27.68	27.49	27.30	27.10
25.5	29.37	29.17	28.97	28.77	28.57	28.38	28.18	27.98	27.79	27.59	27.40	27.21
25.6	29.48	29.28	29.08	28.88	28.68	28.48	28.29	28.09	27.89	27.70	27.50	27.31
25.7	29.59	29.39	29.19	28.99	28.79	28.59	28.39	28.19	28.00	27.80	27.61	27.42
25.8	29.70	29.50	29.29	29.09	28.89	28.70	28.50	28.30	28.10	27.91	27.71	27.52
25.9	29.81	29.60	29.40	29.20	29.00	28.80	28.60	28.41	28.21	28.01	27.82	27.62
26	29.91	29.71	29.51	29.31	29.11	28.91	28.71	28.51	28.31	28.12	27.92	27.73
26.1	30.02	29.82	29.62	29.41	29.21	29.01	28.81	28.62	28.42	28.22	28.03	27.83

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
23.15	22.98	22.81	22.64	22.47	22.30	22.14	21.97	21.80	21.63	21.47	21.30	21.13
23.26	23.09	22.92	22.75	22.58	22.41	22.24	22.07	21.90	21.73	21.56	21.40	21.23
23.36	23.19	23.02	22.85	22.68	22.51	22.34	22.17	22.00	21.83	21.66	21.49	21.33
23.47	23.30	23.12	22.95	22.78	22.61	22.44	22.27	22.10	21.93	21.76	21.59	21.42
23.57	23.40	23.23	23.06	22.88	22.71	22.54	22.37	22.20	22.03	21.86	21.69	21.52
23.68	23.50	23.33	23.16	22.99	22.81	22.64	22.47	22.30	22.13	21.96	21.79	21.62
23.78	23.61	23.43	23.26	23.09	22.92	22.74	22.57	22.40	22.23	22.06	21.89	21.72
23.89	23.71	23.54	23.36	23.19	23.02	22.84	22.67	22.50	22.33	22.16	21.99	21.81
23.99	23.82	23.64	23.47	23.29	23.12	22.95	22.77	22.60	22.43	22.26	22.08	21.91
24.10	23.92	23.75	23.57	23.40	23.22	23.05	22.87	22.70	22.53	22.35	22.18	22.01
24.20	24.03	23.85	23.67	23.50	23.32	23.15	22.97	22.80	22.63	22.45	22.28	22.11
24.31	24.13	23.95	23.78	23.60	23.42	23.25	23.07	22.90	22.73	22.55	22.38	22.21
24.41	24.23	24.06	23.88	23.70	23.53	23.35	23.17	23.00	22.83	22.65	22.48	22.30
24.52	24.34	24.16	23.98	23.80	23.63	23.45	23.28	23.10	22.92	22.75	22.58	22.40
24.62	24.44	24.26	24.08	23.91	23.73	23.55	23.38	23.20	23.02	22.85	22.67	22.50
24.73	24.55	24.37	24.19	24.01	23.83	23.65	23.48	23.30	23.12	22.95	22.77	22.60
24.83	24.65	24.47	24.29	24.11	23.93	23.75	23.58	23.40	23.22	23.05	22.87	22.70
24.94	24.75	24.57	24.39	24.21	24.03	23.86	23.68	23.50	23.32	23.15	22.97	22.79
25.04	24.86	24.68	24.50	24.32	24.14	23.96	23.78	23.60	23.42	23.24	23.07	22.89
25.14	24.96	24.78	24.60	24.42	24.24	24.06	23.88	23.70	23.52	23.34	23.17	22.99
25.25	25.07	24.88	24.70	24.52	24.34	24.16	23.98	23.80	23.62	23.44	23.26	23.09
25.35	25.17	24.99	24.80	24.62	24.44	24.26	24.08	23.90	23.72	23.54	23.36	23.18
25.46	25.27	25.09	24.91	24.72	24.54	24.36	24.18	24.00	23.82	23.64	23.46	23.28
25.56	25.38	25.19	25.01	24.83	24.64	24.46	24.28	24.10	23.92	23.74	23.56	23.38
25.67	25.48	25.30	25.11	24.93	24.75	24.56	24.38	24.20	24.02	23.84	23.66	23.48
25.77	25.58	25.40	25.21	25.03	24.85	24.66	24.48	24.30	24.12	23.94	23.76	23.58
25.87	25.69	25.50	25.32	25.13	24.95	24.77	24.58	24.40	24.22	24.04	23.86	23.67
25.98	25.79	25.61	25.42	25.23	25.05	24.87	24.68	24.50	24.32	24.14	23.95	23.77
26.08	25.89	25.71	25.52	25.34	25.15	24.97	24.78	24.60	24.42	24.23	24.05	23.87
26.19	26.00	25.81	25.62	25.44	25.25	25.07	24.88	24.70	24.52	24.33	24.15	23.97
26.29	26.10	25.91	25.73	25.54	25.35	25.17	24.98	24.80	24.62	24.43	24.25	24.07
26.39	26.20	26.02	25.83	25.64	25.46	25.27	25.08	24.90	24.72	24.53	24.35	24.17
26.50	26.31	26.12	25.93	25.74	25.56	25.37	25.19	25.00	24.82	24.63	24.45	24.26
26.60	26.41	26.22	26.03	25.85	25.66	25.47	25.29	25.10	24.91	24.73	24.55	24.36
26.70	26.51	26.32	26.14	25.95	25.76	25.57	25.39	25.20	25.01	24.83	24.64	24.46
26.81	26.62	26.43	26.24	26.05	25.86	25.67	25.49	25.30	25.11	24.93	24.74	24.56
26.91	26.72	26.53	26.34	26.15	25.96	25.77	25.59	25.40	25.21	25.03	24.84	24.66
27.02	26.82	26.63	26.44	26.25	26.06	25.88	25.69	25.50	25.31	25.13	24.94	24.75
27.12	26.93	26.74	26.54	26.35	26.17	25.98	25.79	25.60	25.41	25.23	25.04	24.85
27.22	27.03	26.84	26.65	26.46	26.27	26.08	25.89	25.70	25.51	25.32	25.14	24.95
27.33	27.13	26.94	26.75	26.56	26.37	26.18	25.99	25.80	25.61	25.42	25.24	25.05
27.43	27.24	27.04	26.85	26.66	26.47	26.28	26.09	25.90	25.71	25.52	25.34	25.15
27.53	27.34	27.15	26.95	26.76	26.57	26.38	26.19	26.00	25.81	25.62	25.43	25.25
27.64	27.44	27.25	27.05	26.86	26.67	26.48	26.29	26.10	25.91	25.72	25.53	25.35



表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
26.2	30.13	29.93	29.72	29.52	29.32	29.12	28.92	28.72	28.52	28.33	28.13	27.93
26.3	30.24	30.03	29.83	29.63	29.43	29.22	29.02	28.83	28.63	28.43	28.23	28.04
26.4	30.34	30.14	29.94	29.73	29.53	29.33	29.13	28.93	28.73	28.53	28.34	28.14
26.5	30.45	30.25	30.04	29.84	29.64	29.44	29.23	29.03	28.84	28.64	28.44	28.24
26.6	30.56	30.35	30.15	29.94	29.74	29.53	29.34	29.14	28.94	28.74	28.54	28.35
26.7	30.66	30.46	30.25	30.05	29.85	29.65	29.44	29.24	29.04	28.85	28.65	28.45
26.8	30.77	30.57	30.36	30.16	29.95	29.75	29.55	29.35	29.15	28.95	28.75	28.55
26.9	30.88	30.67	30.47	30.26	30.06	29.86	29.65	29.45	29.25	29.05	28.85	28.66
27	30.98	30.78	30.57	30.37	30.16	29.96	29.76	29.56	29.36	29.16	28.96	28.76
27.1	31.09	30.88	30.68	30.47	30.27	30.07	29.86	29.66	29.46	29.26	29.06	28.86
27.2	31.20	30.99	30.78	30.58	30.37	30.17	29.97	29.77	29.56	29.36	29.16	28.96
27.3	31.30	31.09	30.89	30.68	30.48	30.27	30.07	29.87	29.67	29.47	29.27	29.07
27.4	31.41	31.20	30.99	30.79	30.58	30.38	30.18	29.97	29.77	29.57	29.37	29.17
27.5	31.51	31.30	31.10	30.89	30.69	30.48	30.28	30.08	29.87	29.67	29.47	29.27
27.6	31.62	31.41	31.20	31.00	30.79	30.59	30.38	30.18	29.98	29.78	29.58	29.38
27.7	31.72	31.51	31.31	31.10	30.90	30.69	30.49	30.28	30.08	29.88	29.68	29.48
27.8	31.83	31.62	31.41	31.21	31.00	30.80	30.59	30.39	30.19	29.98	29.78	29.58
27.9	31.93	31.72	31.52	31.31	31.10	30.90	30.69	30.49	30.29	30.09	29.88	29.68
28	32.04	31.83	31.62	31.41	31.21	31.00	30.80	30.59	30.39	30.19	29.99	29.79
28.1	32.14	31.93	31.73	31.52	31.31	31.11	30.90	30.70	30.49	30.29	30.09	29.89
28.2	32.25	32.04	31.83	31.62	31.42	31.21	31.01	30.80	30.60	30.39	30.19	29.99
28.3	32.35	32.14	31.93	31.73	31.52	31.31	31.11	30.90	30.70	30.50	30.29	30.09
28.4	32.45	32.25	32.04	31.83	31.62	31.42	31.21	31.01	30.80	30.60	30.40	30.19
28.5	32.56	32.35	32.14	31.93	31.73	31.52	31.31	31.11	30.91	30.70	30.50	30.30
28.6	32.66	32.45	32.24	32.04	31.83	31.62	31.42	31.21	31.01	30.80	30.60	30.40
28.7	32.77	32.56	32.35	32.14	31.93	31.73	31.52	31.32	31.11	30.91	30.70	30.50
28.8	32.87	32.66	32.45	32.24	32.04	31.83	31.62	31.42	31.21	31.01	30.81	30.60
28.9	32.97	32.76	32.55	32.35	32.14	31.93	31.73	31.52	31.32	31.11	30.91	30.71
29	33.08	32.87	32.66	32.45	32.24	32.04	31.83	31.62	31.42	31.21	31.01	30.81
29.1	33.18	32.97	32.76	32.55	32.35	32.14	31.93	31.73	31.52	31.32	31.11	30.91
29.2	33.28	33.07	32.86	32.66	32.45	32.24	32.03	31.83	31.62	31.42	31.21	31.01
29.3	33.39	33.18	32.97	32.76	32.55	32.34	32.14	31.93	31.73	31.52	31.32	31.11
29.4	33.49	33.28	33.07	32.86	32.65	32.45	32.24	32.03	31.83	31.62	31.42	31.21
29.5	33.59	33.38	33.17	32.96	32.76	32.55	32.34	32.14	31.93	31.72	31.52	31.32
29.6	33.69	33.48	33.27	33.07	32.86	32.65	32.44	32.24	32.03	31.83	31.62	31.42
29.7	33.80	33.59	33.38	33.17	32.96	32.75	32.55	32.34	32.13	31.93	31.72	31.52
29.8	33.90	33.69	33.48	33.27	33.06	32.86	32.65	32.44	32.24	32.03	31.82	31.62
29.9	34.00	33.79	33.58	33.37	33.16	32.96	32.75	32.54	32.34	32.13	31.93	31.72
30	34.10	33.89	33.68	33.48	33.27	33.06	32.85	32.65	32.44	32.23	32.03	31.82
30.1	34.21	34.00	33.79	33.58	33.37	33.16	32.95	32.75	32.54	32.33	32.13	31.92
30.2	34.31	34.10	33.89	33.68	33.47	33.26	33.06	32.85	32.64	32.44	32.23	32.03
30.3	34.41	34.20	33.99	33.78	33.57	33.36	33.16	32.95	32.74	32.54	32.33	32.13
30.4	34.51	34.30	34.09	33.88	33.67	33.47	33.26	33.05	32.85	32.64	32.43	32.23
30.5	34.61	34.40	34.19	33.98	33.78	33.57	33.36	33.15	32.95	32.74	32.53	32.33

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
27.74	27.54	27.35	27.16	26.96	26.77	26.58	26.39	26.20	26.01	25.82	25.63	25.44
27.84	27.65	27.45	27.26	27.07	26.87	26.68	26.49	26.30	26.11	25.92	25.73	25.54
27.94	27.75	27.55	27.36	27.17	26.97	26.78	26.59	26.40	26.21	26.02	25.83	25.64
28.05	27.85	27.66	27.46	27.27	27.08	26.88	26.69	26.50	26.31	26.12	25.93	25.74
28.15	27.95	27.76	27.56	27.37	27.18	26.98	26.79	26.60	26.41	26.22	26.03	25.84
28.25	28.06	27.86	27.67	27.47	27.28	27.08	26.89	26.70	26.51	26.32	26.13	25.94
28.36	28.16	27.96	27.77	27.57	<b>27.38</b>	<b>27.19</b>	26.99	26.80	26.61	26.42	26.23	26.03
28.46	28.26	28.07	27.87	27.67	27.48	27.29	<b>27.09</b>	26.90	26.71	26.52	26.32	26.13
28.56	28.36	28.17	27.97	27.78	<b>27.58</b>	27.39	27.19	27.00	26.81	26.62	26.42	26.23
28.66	28.47	28.27	28.07	27.88	27.68	27.49	<b>27.29</b>	27.10	26.91	26.71	26.52	26.33
28.77	28.57	28.37	<b>28.17</b>	27.98	27.78	27.59	27.39	27.20	27.01	26.81	26.62	26.43
28.87	28.67	28.47	<b>28.28</b>	28.08	27.88	27.69	27.49	<b>27.30</b>	<b>27.11</b>	26.91	26.72	26.53
28.97	28.77	<b>28.58</b>	28.38	<b>28.18</b>	27.99	<b>27.79</b>	27.59	27.40	27.21	27.01	26.82	26.63
29.07	28.88	<b>28.68</b>	28.48	<b>28.28</b>	<b>28.09</b>	<b>27.89</b>	<b>27.69</b>	27.50	27.31	27.11	26.92	26.73
29.18	28.98	28.78	28.58	<b>28.38</b>	<b>28.19</b>	<b>27.99</b>	<b>27.80</b>	27.60	27.41	27.21	27.02	26.82
29.28	29.08	<b>28.88</b>	28.68	<b>28.48</b>	<b>28.29</b>	<b>28.09</b>	<b>27.90</b>	27.70	27.51	27.31	27.12	26.92
29.38	29.18	<b>28.98</b>	28.78	<b>28.59</b>	28.39	28.19	<b>28.00</b>	27.80	27.60	27.41	27.22	27.02
29.48	29.28	29.08	28.89	<b>28.69</b>	28.49	28.29	<b>28.10</b>	27.90	27.70	27.51	27.31	27.12
29.59	29.39	29.19	28.99	<b>28.79</b>	<b>28.59</b>	28.39	<b>28.20</b>	28.00	27.80	<b>27.61</b>	27.41	27.22
29.69	29.49	29.29	29.09	<b>28.89</b>	<b>28.69</b>	<b>28.49</b>	<b>28.30</b>	28.10	27.90	27.71	27.51	27.32
29.79	29.59	29.39	29.19	<b>28.99</b>	28.79	28.59	<b>28.40</b>	28.20	28.00	<b>27.81</b>	27.61	27.42
29.89	29.69	29.49	29.29	<b>29.09</b>	28.89	28.69	<b>28.50</b>	28.30	28.10	27.91	27.71	27.52
29.99	29.79	29.59	29.39	<b>29.19</b>	<b>28.99</b>	<b>28.80</b>	<b>28.60</b>	28.40	28.20	<b>28.01</b>	27.81	27.61
30.10	29.89	29.69	29.49	<b>29.29</b>	29.09	28.90	<b>28.70</b>	28.50	28.30	<b>28.11</b>	27.91	27.71
30.20	30.00	29.79	29.59	<b>29.39</b>	29.20	29.00	<b>28.80</b>	28.60	28.40	28.21	28.01	27.81
30.30	30.10	29.90	29.70	<b>29.50</b>	29.30	29.10	<b>28.90</b>	28.70	28.50	28.30	28.11	27.91
30.40	30.20	30.00	29.80	<b>29.60</b>	29.40	29.20	<b>29.00</b>	28.80	28.60	28.40	28.21	28.01
30.50	30.30	30.10	29.90	<b>29.70</b>	29.50	29.30	<b>29.10</b>	28.90	28.70	28.50	28.31	28.11
30.60	30.40	30.20	30.00	29.80	29.60	29.40	29.20	29.00	28.80	28.60	28.41	28.21
30.71	30.50	30.30	30.10	29.90	29.70	29.50	29.30	29.10	28.90	28.70	28.51	28.31
30.81	30.60	30.40	30.20	30.00	29.80	29.60	29.40	29.20	29.00	28.80	28.60	28.41
30.91	30.71	30.50	30.30	30.10	29.90	29.70	29.50	29.30	29.10	28.90	28.70	28.51
31.01	30.81	30.61	30.40	30.20	30.00	29.80	29.60	29.40	29.20	29.00	28.80	28.61
31.11	30.91	30.71	30.50	30.30	30.10	29.90	29.70	29.50	29.30	29.10	28.90	28.70
31.21	31.01	30.81	30.60	30.40	30.20	30.00	29.80	29.60	29.40	29.20	29.00	28.80
31.31	31.11	30.91	30.71	30.50	30.30	30.10	29.90	29.70	29.50	29.30	29.10	28.90
31.42	31.21	31.01	30.81	30.60	30.40	30.20	30.00	29.80	29.60	29.40	29.20	29.00
31.52	31.31	31.11	30.91	30.71	30.50	30.30	30.10	29.90	29.70	29.50	29.30	29.10
31.62	31.41	31.21	31.01	30.81	30.60	30.40	30.20	30.00	29.80	29.60	29.40	29.20
31.72	31.52	31.31	31.11	30.91	30.70	30.50	30.30	30.10	29.90	29.70	29.50	29.30
31.82	31.62	31.41	31.21	31.01	30.80	30.60	30.40	30.20	30.00	29.80	29.60	29.40
31.92	31.72	31.51	31.31	31.11	30.91	30.70	30.50	30.30	30.10	29.90	29.70	29.50
32.02	31.82	31.62	31.41	31.21	31.01	30.80	30.60	30.40	30.20	30.00	29.80	29.60
32.12	31.92	31.72	31.51	31.31	31.11	30.90	30.70	30.50	30.30	30.10	29.90	29.70

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
30.6	34.71	34.50	34.30	34.09	33.88	33.67	33.46	33.25	33.05	32.84	32.64	32.43
30.7	34.82	34.61	34.40	34.19	33.98	33.77	33.56	33.36	33.15	32.94	32.74	32.53
30.8	34.92	34.71	34.50	34.29	34.08	33.87	33.66	33.46	33.25	33.04	32.84	32.63
30.9	35.02	34.81	34.60	34.39	34.18	33.97	33.77	33.56	33.35	33.15	32.94	32.73
31	35.12	34.91	34.70	34.49	34.28	34.07	33.87	33.66	33.45	33.25	33.04	32.83
31.1	35.22	35.01	34.80	34.59	34.38	34.18	33.97	33.76	33.55	33.35	33.14	32.94
31.2	35.32	35.11	34.90	34.69	34.49	34.28	34.07	33.86	33.65	33.45	33.24	33.04
31.3	35.42	35.21	35.00	34.79	34.59	34.38	34.17	33.96	33.76	33.55	33.34	33.14
31.4	35.52	35.31	35.10	34.90	34.69	34.48	34.27	34.06	33.86	33.65	33.44	33.24
31.5	35.62	35.41	35.21	35.00	34.79	34.58	34.37	34.16	33.96	33.75	33.54	33.34
31.6	35.72	35.52	35.31	35.10	34.89	34.68	34.47	34.27	34.06	33.85	33.65	33.44
31.7	35.83	35.62	35.41	35.20	34.99	34.78	34.57	34.37	34.16	33.95	33.75	33.54
31.8	35.93	35.72	35.51	35.30	35.09	34.88	34.67	34.47	34.26	34.05	33.85	33.64
31.9	36.03	35.82	35.61	35.40	35.19	34.98	34.77	34.57	34.36	34.15	33.95	33.74
32	36.13	35.92	35.71	35.50	35.29	35.08	34.88	34.67	34.46	34.25	34.05	33.84
32.1	36.23	36.02	35.81	35.60	35.39	35.18	34.98	34.77	34.56	34.35	34.15	33.94
32.2	36.33	36.12	35.91	35.70	35.49	35.28	35.08	34.87	34.66	34.45	34.25	34.04
32.3	36.43	36.22	36.01	35.80	35.59	35.38	35.18	34.97	34.76	34.56	34.35	34.14
32.4	36.53	36.32	36.11	35.90	35.69	35.48	35.28	35.07	34.86	34.66	34.45	34.24
32.5	36.63	36.42	36.21	36.00	35.79	35.58	35.38	35.17	34.96	34.76	34.55	34.34
32.6	36.73	36.52	36.31	36.10	35.89	35.68	35.48	35.27	35.06	34.86	34.65	34.44
32.7	36.83	36.62	36.41	36.20	35.99	35.79	35.58	35.37	35.16	34.96	34.75	34.54
32.8	36.93	36.72	36.51	36.30	36.09	35.89	35.68	35.47	35.26	35.06	34.85	34.64
32.9	37.03	36.82	36.61	36.40	36.19	35.99	35.78	35.57	35.36	35.16	34.95	34.74
33	37.13	36.92	36.71	36.50	36.29	36.09	35.88	35.67	35.46	35.26	35.05	34.84
33.1	37.22	37.02	36.81	36.60	36.39	36.19	35.98	35.77	35.56	35.36	35.15	34.94
33.2	37.32	37.12	36.91	36.70	36.49	36.28	36.08	35.87	35.66	35.46	35.25	35.04
33.3	37.42	37.22	37.01	36.80	36.59	36.38	36.18	35.97	35.76	35.56	35.35	35.14
33.4	37.52	37.31	37.11	36.90	36.69	36.48	36.28	36.07	35.86	35.66	35.45	35.24
33.5	37.62	37.41	37.21	37.00	36.79	36.58	36.38	36.17	35.96	35.76	35.55	35.34
33.6	37.72	37.51	37.31	37.10	36.89	36.68	36.48	36.27	36.06	35.86	35.65	35.44
33.7	37.82	37.61	37.41	37.20	36.99	36.78	36.58	36.37	36.16	35.96	35.75	35.54
33.8	37.92	37.71	37.50	37.30	37.09	36.88	36.68	36.47	36.26	36.06	35.85	35.64
33.9	38.02	37.81	37.60	37.40	37.19	36.98	36.78	36.57	36.36	36.16	35.95	35.74
34	38.12	37.91	37.70	37.50	37.29	37.08	36.88	36.67	36.46	36.26	36.05	35.84
34.1	38.22	38.01	37.80	37.59	37.39	37.18	36.97	36.77	36.56	36.36	36.15	35.94
34.2	38.31	38.11	37.90	37.69	37.49	37.28	37.07	36.87	36.66	36.46	36.25	36.04
34.3	38.41	38.21	38.00	37.79	37.59	37.38	37.17	36.97	36.76	36.56	36.35	36.14
34.4	38.51	38.31	38.10	37.89	37.69	37.48	37.27	37.07	36.86	36.65	36.45	36.24
34.5	38.61	38.40	38.20	37.99	37.78	37.58	37.37	37.17	36.96	36.75	36.55	36.34
34.6	38.71	38.50	38.30	38.09	37.88	37.68	37.47	37.27	37.06	36.85	36.65	36.44
34.7	38.81	38.60	38.40	38.19	37.98	37.78	37.57	37.36	37.16	36.95	36.75	36.54
34.8	38.91	38.70	38.49	38.29	38.08	37.88	37.67	37.46	37.26	37.05	36.85	36.64
34.9	39.00	38.80	38.59	38.39	38.18	37.97	37.77	37.56	37.36	37.15	36.95	36.74

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
32.23	32.02	31.82	31.61	31.41	31.21	31.00	30.80	30.60	30.40	30.20	30.00	29.80
32.33	32.12	31.92	31.71	31.51	31.31	31.10	30.90	30.70	30.50	30.30	30.10	29.90
32.43	32.22	32.02	31.81	31.61	31.41	31.20	31.00	30.80	30.60	30.40	30.20	29.99
32.53	32.32	32.12	31.91	31.71	31.51	31.30	31.10	30.90	30.70	30.50	30.30	30.09
32.63	32.42	32.22	32.02	31.81	31.61	31.41	31.20	31.00	30.80	30.60	30.39	30.19
32.73	32.52	32.32	32.12	31.91	31.71	31.51	31.30	31.10	30.90	30.70	30.49	30.29
32.83	32.63	32.42	32.22	32.01	31.81	31.61	31.40	31.20	31.00	30.80	30.59	30.39
32.93	32.73	32.52	32.32	32.11	31.91	31.71	31.50	31.30	31.10	30.90	30.69	30.49
33.03	32.83	32.62	32.42	32.21	32.01	31.81	31.60	31.40	31.20	31.00	30.79	30.59
33.13	32.93	32.72	32.52	32.31	32.11	31.91	31.70	31.50	31.30	31.10	30.89	30.69
33.23	33.03	32.82	32.62	32.41	32.21	32.01	31.80	31.60	31.40	31.19	30.99	30.79
33.33	33.13	32.92	32.72	32.51	32.31	32.11	31.90	31.70	31.50	31.29	31.09	30.89
33.43	33.23	33.02	32.82	32.61	32.41	32.21	32.00	31.80	31.60	31.39	31.19	30.99
33.54	33.33	33.12	32.92	32.72	32.51	32.31	32.10	31.90	31.70	31.49	31.29	31.09
33.64	33.43	33.22	33.02	32.82	32.61	32.41	32.20	32.00	31.80	31.59	31.39	31.19
33.74	33.53	33.33	33.12	32.92	32.71	32.51	32.30	32.10	31.90	31.69	31.49	31.29
33.84	33.63	33.43	33.22	33.02	32.81	32.61	32.40	32.20	32.00	31.79	31.59	31.39
33.94	33.73	33.53	33.32	33.12	32.91	32.71	32.50	32.30	32.10	31.89	31.69	31.49
34.04	33.83	33.63	33.42	33.22	33.01	32.81	32.60	32.40	32.20	31.99	31.79	31.59
34.14	33.93	33.73	33.52	33.32	33.11	32.91	32.70	32.50	32.30	32.09	31.89	31.69
34.24	34.03	33.83	33.62	33.42	33.21	33.01	32.80	32.60	32.40	32.19	31.99	31.79
34.34	34.13	33.93	33.72	33.52	33.31	33.11	32.90	32.70	32.50	32.29	32.09	31.89
34.44	34.23	34.03	33.82	33.62	33.41	33.21	33.00	32.80	32.60	32.39	32.19	31.99
34.54	34.33	34.13	33.92	33.72	33.51	33.31	33.10	32.90	32.70	32.49	32.29	32.09
34.64	34.43	34.23	34.02	33.82	33.61	33.41	33.20	33.00	32.80	32.59	32.39	32.19
34.74	34.53	34.33	34.12	33.92	33.71	33.51	33.30	33.10	32.90	32.69	32.49	32.29
34.84	34.63	34.43	34.22	34.02	33.81	33.61	33.40	33.20	33.00	32.79	32.59	32.39
34.94	34.73	34.53	34.32	34.12	33.91	33.71	33.50	33.30	33.10	32.89	32.69	32.49
35.04	34.83	34.63	34.42	34.22	34.01	33.81	33.60	33.40	33.20	32.99	32.79	32.59
35.14	34.93	34.73	34.52	34.32	34.11	33.91	33.70	33.50	33.30	33.09	32.89	32.69
35.24	35.03	34.83	34.62	34.42	34.21	34.01	33.80	33.60	33.40	33.19	32.99	32.79
35.34	35.13	34.93	34.72	34.52	34.31	34.11	33.90	33.70	33.50	33.29	33.09	32.88
35.44	35.23	35.03	34.82	34.62	34.41	34.21	34.00	33.80	33.60	33.39	33.19	32.98
35.54	35.33	35.13	34.92	34.72	34.51	34.31	34.10	33.90	33.70	33.49	33.29	33.08
35.64	35.43	35.23	35.02	34.82	34.61	34.41	34.20	34.00	33.80	33.59	33.39	33.18
35.74	35.53	35.33	35.12	34.92	34.71	34.51	34.30	34.10	33.90	33.69	33.49	33.28
35.84	35.63	35.43	35.22	35.02	34.81	34.61	34.40	34.20	34.00	33.79	33.59	33.38
35.94	35.73	35.53	35.32	35.12	34.91	34.71	34.50	34.30	34.10	33.89	33.69	33.48
36.04	35.83	35.63	35.42	35.22	35.01	34.81	34.60	34.40	34.20	33.99	33.79	33.58
36.14	35.93	35.73	35.52	35.32	35.11	34.91	34.70	34.50	34.30	34.09	33.89	33.68
36.24	36.03	35.83	35.62	35.42	35.21	35.01	34.80	34.60	34.40	34.19	33.99	33.78
36.34	36.13	35.93	35.72	35.52	35.31	35.11	34.90	34.70	34.50	34.29	34.09	33.88
36.44	36.23	36.03	35.82	35.62	35.41	35.21	35.00	34.80	34.60	34.39	34.19	33.98
36.54	36.33	36.13	35.92	35.72	35.51	35.31	35.10	34.90	34.70	34.49	34.29	34.08

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
35	39.10	38.90	38.69	38.43	38.28	38.07	37.87	37.66	37.46	37.25	37.05	36.84
35.1	39.20	39.00	38.79	38.58	38.38	38.17	37.97	37.76	37.56	37.35	37.15	36.94
35.2	39.30	39.09	38.89	38.68	38.48	38.27	38.07	37.86	37.66	37.45	37.25	37.04
35.3	39.40	39.19	38.99	38.78	38.58	38.37	38.17	37.96	37.76	37.55	37.34	37.14
35.4	39.50	39.29	39.09	38.88	38.67	38.47	38.26	38.06	37.85	37.65	37.44	37.24
35.5	39.59	39.39	39.18	38.98	38.77	38.57	38.36	38.16	37.95	37.75	37.54	37.34
35.6	39.69	39.49	39.28	39.08	38.87	38.67	38.46	38.26	38.05	37.85	37.64	37.44
35.7	39.79	39.59	39.38	39.18	38.97	38.77	38.56	38.36	38.15	37.95	37.74	37.54
35.8	39.89	39.68	39.48	39.27	39.07	38.86	38.66	38.46	38.25	38.05	37.84	37.64
35.9	39.99	39.78	39.58	39.37	39.17	38.96	38.76	38.55	38.35	38.15	37.94	37.74
36	40.08	39.88	39.68	39.47	39.27	39.06	38.86	38.65	38.45	38.24	38.04	37.84
36.1	40.18	39.98	39.77	39.57	39.37	39.16	38.96	38.75	38.55	38.34	38.14	37.94
36.2	40.28	40.08	39.87	39.67	39.46	39.26	39.06	38.85	38.65	38.44	38.24	38.03
36.3	40.38	40.17	39.97	39.77	39.56	39.36	39.15	38.95	38.75	38.54	38.34	38.13
36.4	40.48	40.27	40.07	39.86	39.66	39.46	39.25	39.05	38.84	38.64	38.44	38.23
36.5	40.57	40.37	40.17	39.96	39.76	39.56	39.35	39.15	38.94	38.74	38.54	38.33
36.6	40.67	40.47	40.26	40.06	39.86	39.65	39.45	39.25	39.04	38.84	38.64	38.43
36.7	40.77	40.57	40.36	40.16	39.96	39.75	39.55	39.35	39.14	38.94	38.73	38.53
36.8	40.87	40.66	40.46	40.26	40.05	39.85	39.65	39.44	39.24	39.04	38.83	38.63
36.9	40.96	40.76	40.56	40.36	40.15	39.95	39.75	39.54	39.34	39.14	38.93	38.73
37	41.06	40.86	40.66	40.45	40.25	40.05	39.84	39.64	39.44	39.23	39.03	38.83
37.1	41.16	40.96	40.75	40.55	40.35	40.15	39.94	39.74	39.54	39.33	39.13	38.93
37.2	41.26	41.05	40.85	40.65	40.45	40.24	40.04	39.84	39.64	39.43	39.23	39.03
37.3	41.35	41.15	40.95	40.75	40.54	40.34	40.14	39.94	39.73	39.53	39.33	39.13
37.4	41.45	41.25	41.05	40.85	40.64	40.44	40.24	40.04	39.83	39.63	39.43	39.23
37.5	41.55	41.35	41.15	40.94	40.74	40.54	40.34	40.13	39.93	39.73	39.53	39.32
37.6	41.65	41.45	41.24	41.04	40.84	40.64	40.44	40.23	40.03	39.83	39.63	39.42
37.7	41.74	41.54	41.34	41.14	40.94	40.74	40.53	40.33	40.13	39.93	39.72	39.52
37.8	41.84	41.64	41.44	41.24	41.04	40.83	40.63	40.43	40.23	40.03	39.82	39.62
37.9	41.94	41.74	41.54	41.34	41.13	40.93	40.73	40.53	40.33	40.12	39.92	39.72
38	42.04	41.84	41.63	41.43	41.23	41.03	40.83	40.63	40.43	40.22	40.02	39.82
38.1	42.13	41.93	41.73	41.53	41.33	41.13	40.93	40.73	40.52	40.32	40.12	39.92
38.2	42.23	42.03	41.83	41.63	41.43	41.23	41.03	40.82	40.62	40.42	40.22	40.02
38.3	42.33	42.13	41.93	41.73	41.53	41.32	41.12	40.92	40.72	40.52	40.32	40.12
38.4	42.43	42.23	42.02	41.82	41.62	41.42	41.22	41.02	40.82	40.62	40.42	40.22
38.5	42.52	42.32	42.12	41.92	41.72	41.52	41.32	41.12	40.92	40.72	40.52	40.31
38.6	42.62	42.42	42.22	42.02	41.82	41.62	41.42	41.22	41.02	40.82	40.61	40.41
38.7	42.72	42.52	42.32	42.12	41.92	41.72	41.52	41.32	41.11	40.91	40.71	40.51
38.8	42.81	42.61	42.41	42.21	42.01	41.81	41.61	41.41	41.21	41.01	40.81	40.61
38.9	42.91	42.71	42.51	42.31	42.11	41.91	41.71	41.51	41.31	41.11	40.91	40.71
39	43.01	42.81	42.61	42.41	42.21	42.01	41.81	41.61	41.41	41.21	41.01	40.81
39.1	43.11	42.91	42.71	42.51	42.31	42.11	41.91	41.71	41.51	41.31	41.11	40.91
39.2	43.20	43.00	42.80	42.61	42.41	42.21	42.01	41.81	41.61	41.41	41.21	41.01
39.3	43.30	43.10	42.90	42.70	42.50	42.30	42.11	41.91	41.71	41.51	41.31	41.11

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
36.64	36.43	36.23	36.02	35.82	35.61	35.41	35.20	35.00	34.80	34.59	34.39	34.18
36.74	36.53	36.33	36.12	35.92	35.71	35.51	35.30	35.10	34.90	34.69	34.49	34.28
36.84	36.63	36.43	36.22	36.02	35.81	35.61	35.40	35.20	35.00	34.79	34.59	34.38
36.94	36.73	36.53	36.32	36.12	35.91	35.71	35.50	35.30	35.10	34.89	34.69	34.48
37.03	36.83	36.63	36.42	36.22	36.01	35.81	35.60	35.40	35.20	34.99	34.79	34.58
37.13	36.93	36.73	36.52	36.32	36.11	35.91	35.70	35.50	35.30	35.09	34.89	34.68
37.23	37.03	36.82	36.62	36.42	36.21	36.01	35.80	35.60	35.40	35.19	34.99	34.78
37.33	37.13	36.92	36.72	36.52	36.31	36.11	35.90	35.70	35.50	35.29	35.09	34.89
37.43	37.23	37.02	36.82	36.62	36.41	36.21	36.00	35.80	35.60	35.39	35.19	34.99
37.53	37.33	37.12	36.92	36.72	36.51	36.31	36.10	35.90	35.70	35.49	35.29	35.09
37.63	37.43	37.22	37.02	36.82	36.61	36.41	36.20	36.00	35.80	35.59	35.39	35.19
37.73	37.53	37.32	37.12	36.92	36.71	36.51	36.30	36.10	35.90	35.69	35.49	35.29
37.83	37.63	37.42	37.22	37.01	36.81	36.61	36.40	36.20	36.00	35.79	35.59	35.39
37.93	37.73	37.52	37.32	37.11	36.91	36.71	36.50	36.30	36.10	35.89	35.69	35.49
38.03	37.83	37.62	37.42	37.21	37.01	36.81	36.60	36.40	36.20	35.99	35.79	35.59
38.13	37.93	37.72	37.52	37.31	37.11	36.91	36.70	36.50	36.30	36.09	35.89	35.69
38.23	38.02	37.82	37.62	37.41	37.21	37.01	36.80	36.60	36.40	36.19	35.99	35.79
38.33	38.12	37.92	37.72	37.51	37.31	37.11	36.90	36.70	36.50	36.29	36.09	35.89
38.43	38.22	38.02	37.82	37.61	37.41	37.21	37.00	36.80	36.60	36.39	36.19	35.99
38.53	38.32	38.12	37.92	37.71	37.51	37.31	37.10	36.90	36.70	36.49	36.29	36.09
38.63	38.42	38.22	38.02	37.81	37.61	37.41	37.20	37.00	36.80	36.59	36.39	36.19
38.72	38.52	38.32	38.12	37.91	37.71	37.51	37.30	37.10	36.90	36.69	36.49	36.29
38.82	38.62	38.42	38.21	38.01	37.81	37.61	37.40	37.20	37.00	36.79	36.59	36.39
38.92	38.72	38.52	38.31	38.11	37.91	37.71	37.50	37.30	37.10	36.89	36.69	36.49
39.02	38.82	38.62	38.41	38.21	38.01	37.81	37.60	37.40	37.20	36.99	36.79	36.59
39.12	38.92	38.72	38.51	38.31	38.11	37.91	37.70	37.50	37.30	37.09	36.89	36.69
39.22	39.02	38.82	38.61	38.41	38.21	38.01	37.80	37.60	37.40	37.19	36.99	36.79
39.32	39.12	38.92	38.71	38.51	38.31	38.11	37.90	37.70	37.50	37.29	37.09	36.89
39.42	39.22	39.01	38.81	38.61	38.41	38.20	38.00	37.80	37.60	37.39	37.19	36.99
39.52	39.32	39.11	38.91	38.71	38.51	38.30	38.10	37.90	37.70	37.50	37.29	37.09
39.62	39.42	39.21	39.01	38.81	38.61	38.40	38.20	38.00	37.80	37.60	37.39	37.19
39.72	39.51	39.31	39.11	38.91	38.71	38.50	38.30	38.10	37.90	37.70	37.49	37.29
39.82	39.61	39.41	39.21	39.01	38.81	38.60	38.40	38.20	38.00	37.80	37.59	37.39
39.91	39.71	39.51	39.31	39.11	38.91	38.70	38.50	38.30	38.10	37.90	37.69	37.49
40.01	39.81	39.61	39.41	39.21	39.01	38.80	38.60	38.40	38.20	38.00	37.79	37.59
40.11	39.91	39.71	39.51	39.31	39.11	38.90	38.70	38.50	38.30	38.10	37.89	37.69
40.21	40.01	39.81	39.61	39.41	39.21	39.00	38.80	38.60	38.40	38.20	37.99	37.79
40.31	40.11	39.91	39.71	39.51	39.30	39.10	38.90	38.70	38.50	38.30	38.09	37.89
40.41	40.21	40.01	39.81	39.61	39.40	39.20	39.00	38.80	38.60	38.40	38.20	37.99
40.51	40.31	40.11	39.91	39.71	39.50	39.30	39.10	38.90	38.70	38.50	38.30	38.09
40.61	40.41	40.21	40.01	39.80	39.60	39.40	39.20	39.00	38.80	38.60	38.40	38.19
40.71	40.51	40.31	40.11	39.90	39.70	39.50	39.30	39.10	38.90	38.70	38.50	38.29
40.81	40.61	40.41	40.20	40.00	39.80	39.60	39.40	39.20	39.00	38.80	38.60	38.39
40.91	40.71	40.50	40.30	40.10	39.90	39.70	39.50	39.30	39.10	38.90	38.70	38.50

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
39.4	43.40	43.20	43.00	42.80	42.60	42.40	42.20	42.00	41.80	41.60	41.40	41.20
39.5	43.49	43.30	43.10	42.90	42.70	42.50	42.30	42.10	41.90	41.70	41.50	41.30
39.6	43.59	43.39	43.19	43.00	42.80	42.60	42.40	42.20	42.00	41.80	41.60	41.40
39.7	43.69	43.49	43.29	43.09	42.89	42.70	42.50	42.30	42.10	41.90	41.70	41.50
39.8	43.78	43.59	43.39	43.19	42.99	42.79	42.60	42.40	42.20	42.00	41.80	41.60
39.9	43.88	43.68	43.49	43.29	43.09	42.89	42.69	42.49	42.30	42.10	41.90	41.70
40	43.98	43.78	43.58	43.39	43.19	42.99	42.79	42.59	42.39	42.20	42.00	41.80
40.1	44.08	43.88	43.68	43.48	43.29	43.09	42.89	42.69	42.49	42.29	42.10	41.90
40.2	44.17	43.98	43.78	43.58	43.38	43.19	42.99	42.79	42.59	42.39	42.19	42.00
40.3	44.27	44.07	43.88	43.68	43.48	43.28	43.09	42.89	42.69	42.49	42.29	42.09
40.4	44.37	44.17	43.97	43.78	43.58	43.38	43.18	42.99	42.79	42.59	42.39	42.19
40.5	44.46	44.27	44.07	43.87	43.68	43.48	43.28	43.08	42.89	42.69	42.49	42.29
40.6	44.56	44.36	44.17	43.97	43.77	43.58	43.38	43.18	42.98	42.79	42.59	42.39
40.7	44.66	44.46	44.26	44.07	43.87	43.67	43.48	43.28	43.08	42.88	42.69	42.49
40.8	44.75	44.56	44.36	44.17	43.97	43.77	43.58	43.38	43.18	42.98	42.79	42.59
40.9	44.85	44.66	44.46	44.26	44.07	43.87	43.67	43.48	43.28	43.08	42.88	42.69
41	44.95	44.75	44.56	44.36	44.16	43.97	43.77	43.57	43.38	43.18	42.98	42.79
41.1	45.04	44.85	44.65	44.46	44.26	44.07	43.87	43.67	43.48	43.28	43.08	42.88
41.2	45.14	44.95	44.75	44.56	44.36	44.16	43.97	43.77	43.57	43.38	43.18	42.98
41.3	45.24	45.04	44.85	44.65	44.46	44.26	44.07	43.87	43.67	43.48	43.28	43.08
41.4	45.34	45.14	44.95	44.75	44.55	44.36	44.16	43.97	43.77	43.57	43.38	43.18
41.5	45.43	45.24	45.04	44.85	44.65	44.46	44.26	44.06	43.87	43.67	43.48	43.28
41.6	45.53	45.33	45.14	44.94	44.75	44.55	44.36	44.16	43.97	43.77	43.57	43.38
41.7	45.63	45.43	45.24	45.04	44.85	44.65	44.46	44.26	44.07	43.87	43.67	43.48
41.8	45.72	45.53	45.33	45.14	44.94	44.75	44.55	44.36	44.16	43.97	43.77	43.58
41.9	45.82	45.63	45.43	45.24	45.04	44.85	44.65	44.46	44.26	44.07	43.87	43.67
42	45.92	45.72	45.53	45.33	45.14	44.95	44.75	44.56	44.36	44.16	43.97	43.77
42.1	46.01	45.82	45.63	45.43	45.24	45.04	44.85	44.65	44.46	44.26	44.07	43.87
42.2	46.11	45.92	45.72	45.53	45.33	45.14	44.95	44.75	44.56	44.36	44.17	43.97
42.3	46.21	46.01	45.82	45.63	45.43	45.24	45.04	44.85	44.65	44.46	44.26	44.07
42.4	46.30	46.11	45.92	45.72	45.53	45.34	45.14	44.95	44.75	44.56	44.36	44.17
42.5	46.40	46.21	46.01	45.82	45.63	45.43	45.24	45.05	44.85	44.66	44.46	44.27
42.6	46.50	46.30	46.11	45.92	45.72	45.53	45.34	45.14	44.95	44.75	44.56	44.36
42.7	46.59	46.40	46.21	46.02	45.82	45.63	45.44	45.24	45.05	44.85	44.66	44.46
42.8	46.69	46.50	46.31	46.11	45.92	45.73	45.53	45.34	45.15	44.95	44.76	44.56
42.9	46.79	46.60	46.40	46.21	46.02	45.82	45.63	45.44	45.24	45.05	44.86	44.66
43	46.88	46.69	46.50	46.31	46.12	45.92	45.73	45.54	45.34	45.15	44.95	44.76
43.1	46.98	46.79	46.60	46.41	46.21	46.02	45.83	45.63	45.44	45.25	45.05	44.86
43.2	47.08	46.89	46.69	46.50	46.31	46.12	45.92	45.73	45.54	45.34	45.15	44.96
43.3	47.17	46.98	46.79	46.60	46.41	46.22	46.02	45.83	45.64	45.44	45.25	45.06
43.4	47.27	47.08	46.89	46.70	46.51	46.31	46.12	45.93	45.73	45.54	45.35	45.15
43.5	47.37	47.18	46.99	46.79	46.60	46.41	46.22	46.03	45.83	45.64	45.45	45.25
43.6	47.46	47.27	47.08	46.89	46.70	46.51	46.32	46.12	45.93	45.74	45.54	45.35
43.7	47.56	47.37	47.18	46.99	46.80	46.61	46.41	46.22	46.03	45.84	45.64	45.45

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
41.00	40.80	40.60	40.40	40.20	40.00	39.80	39.60	39.40	39.20	39.00	38.80	38.60
41.10	40.90	40.70	40.50	40.30	40.10	39.90	39.70	39.50	39.30	39.10	38.90	38.70
41.20	41.00	40.80	40.60	40.40	40.20	40.00	39.80	39.60	39.40	39.20	39.00	38.80
41.30	41.10	40.90	40.70	40.50	40.30	40.10	39.90	39.70	39.50	39.30	39.10	38.90
41.40	41.20	41.00	40.80	40.60	40.40	40.20	40.00	39.80	39.60	39.40	39.20	39.00
41.50	41.30	41.10	40.90	40.70	40.50	40.30	40.10	39.90	39.70	39.50	39.30	39.10
41.60	41.40	41.20	41.00	40.80	40.60	40.46	40.20	40.00	39.80	39.60	39.40	39.20
41.70	41.50	41.30	41.10	40.90	40.70	40.50	40.30	40.10	39.90	39.70	39.50	39.30
41.80	41.60	41.40	41.20	41.00	40.80	40.60	40.40	40.20	40.00	39.80	39.60	39.40
41.90	41.70	41.50	41.30	41.10	40.90	40.70	40.50	40.30	40.10	39.90	39.70	39.50
41.99	41.80	41.60	41.40	41.20	41.00	40.80	40.60	40.40	40.20	40.00	39.80	39.60
42.09	41.89	41.70	41.50	41.30	41.10	40.90	40.70	40.50	40.30	40.10	39.90	39.70
42.19	41.99	41.79	41.60	41.40	41.20	41.00	40.80	40.60	40.40	40.20	40.00	39.80
42.29	42.09	41.89	41.70	41.50	41.30	41.10	40.90	40.70	40.50	40.30	40.10	39.90
42.39	42.19	41.99	41.79	41.60	41.40	41.20	41.00	40.80	40.60	40.40	40.20	40.00
42.49	42.29	42.09	41.89	41.70	41.50	41.30	41.10	40.90	40.70	40.50	40.30	40.10
42.59	42.39	42.19	41.99	41.79	41.60	41.40	41.20	41.00	40.80	40.60	40.40	40.20
42.69	42.49	42.29	42.09	41.89	41.70	41.50	41.30	41.10	40.90	40.70	40.50	40.30
42.79	42.59	42.39	42.19	41.99	41.80	41.60	41.40	41.20	41.00	40.80	40.60	40.40
42.88	42.69	42.49	42.29	42.09	41.90	41.70	41.50	41.30	41.10	40.90	40.70	40.50
42.98	42.79	42.59	42.39	42.19	41.99	41.80	41.60	41.40	41.20	41.00	40.80	40.60
43.08	42.88	42.69	42.49	42.29	42.09	41.90	41.70	41.50	41.30	41.10	40.90	40.71
43.18	42.98	42.79	42.59	42.39	42.19	42.00	41.80	41.60	41.40	41.20	41.00	40.81
43.28	43.08	42.89	42.69	42.49	42.29	42.10	41.90	41.70	41.50	41.30	41.10	40.91
43.38	43.18	42.98	42.79	42.59	42.39	42.20	42.00	41.80	41.60	41.40	41.21	41.01
43.48	43.28	43.08	42.89	42.69	42.49	42.30	42.10	41.90	41.70	41.50	41.31	41.11
43.58	43.38	43.18	42.99	42.79	42.59	42.40	42.20	42.00	41.80	41.60	41.41	41.21
43.68	43.48	43.28	43.09	42.89	42.69	42.49	42.30	42.10	41.90	41.70	41.51	41.31
43.77	43.58	43.38	43.19	42.99	42.79	42.59	42.40	42.20	42.00	41.80	41.61	41.41
43.87	43.68	43.48	43.28	43.09	42.89	42.69	42.50	42.30	42.10	41.91	41.71	41.51
43.97	43.78	43.58	43.38	43.19	42.99	42.79	42.60	42.40	42.20	42.01	41.81	41.61
44.07	43.87	43.68	43.48	43.29	43.09	42.89	42.70	42.50	42.30	42.11	41.91	41.71
44.17	43.97	43.78	43.58	43.39	43.19	42.99	42.80	42.60	42.40	42.21	42.01	41.81
44.27	44.07	43.88	43.68	43.49	43.29	43.09	42.90	42.70	42.50	42.31	42.11	41.91
44.37	44.17	43.98	43.78	43.59	43.39	43.19	43.00	42.80	42.60	42.41	42.21	42.01
44.47	44.27	44.08	43.88	43.68	43.49	43.29	43.10	42.90	42.70	42.51	42.31	42.11
44.56	44.37	44.17	43.98	43.78	43.59	43.39	43.20	43.00	42.80	42.61	42.41	42.21
44.66	44.47	44.27	44.08	43.88	43.69	43.49	43.30	43.10	42.90	42.71	42.51	42.31
44.76	44.57	44.37	44.18	43.98	43.79	43.59	43.40	43.20	43.00	42.81	42.61	42.41
44.86	44.67	44.47	44.28	44.08	43.89	43.69	43.50	43.30	43.10	42.91	42.71	42.51
44.96	44.77	44.57	44.38	44.18	43.99	43.79	43.60	43.40	43.20	43.01	42.81	42.62
45.06	44.86	44.67	44.48	44.28	44.09	43.89	43.70	43.50	43.30	43.11	42.91	42.72
45.16	44.96	44.77	44.58	44.38	44.19	43.99	43.80	43.60	43.40	43.21	43.01	42.82
45.26	45.06	44.87	44.67	44.48	44.29	44.09	43.90	43.70	43.50	43.31	43.11	42.92



表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
43.8	47.66	47.47	47.28	47.09	46.90	46.70	46.51	46.32	46.13	45.93	45.74	45.55
43.9	47.76	47.56	47.37	47.18	46.99	46.80	46.61	46.42	46.23	46.03	45.84	45.65
44	47.85	47.66	47.47	47.28	47.09	46.90	46.71	46.52	46.32	46.13	45.94	45.75
44.1	47.95	47.76	47.57	47.38	47.19	47.00	46.81	46.61	46.42	46.23	46.04	45.84
44.2	48.05	47.86	47.67	47.48	47.29	47.09	46.90	46.71	46.52	46.33	46.14	45.94
44.3	48.14	47.95	47.76	47.57	47.38	47.19	47.00	46.81	46.62	46.43	46.23	46.04
44.4	48.24	48.05	47.86	47.67	47.48	47.29	47.10	46.91	46.72	46.52	46.33	46.14
44.5	48.34	48.15	47.96	47.77	47.58	47.39	47.20	47.01	46.81	46.62	46.43	46.24
44.6	48.43	48.24	48.05	47.86	47.68	47.48	47.29	47.10	46.91	46.72	46.53	46.34
44.7	48.53	48.34	48.15	47.96	47.77	47.58	47.39	47.20	47.01	46.82	46.63	46.44
44.8	48.63	48.44	48.25	48.06	47.87	47.68	47.49	47.30	47.11	46.92	46.73	46.54
44.9	48.72	48.53	48.35	48.16	47.97	47.78	47.59	47.40	47.21	47.02	46.83	46.63
45	48.82	48.63	48.44	48.25	48.07	47.88	47.69	47.50	47.31	47.11	46.92	46.73
45.1	48.92	48.73	48.54	48.35	48.16	47.97	47.78	47.59	47.40	47.21	47.02	46.83
45.2	49.01	48.83	48.64	48.45	48.26	48.07	47.88	47.69	47.50	47.31	47.12	46.93
45.3	49.11	48.92	48.73	48.55	48.36	48.17	47.98	47.79	47.60	47.41	47.22	47.03
45.4	49.21	49.02	48.83	48.64	48.46	48.27	48.08	47.89	47.70	47.51	47.32	47.13
45.5	49.30	49.12	48.93	48.74	48.55	48.36	48.18	47.99	47.80	47.61	47.42	47.23
45.6	49.40	49.21	49.03	48.84	48.65	48.46	48.27	48.08	47.89	47.70	47.51	47.32
45.7	49.50	49.31	49.12	48.94	48.75	48.56	48.37	48.18	47.99	47.80	47.61	47.42
45.8	49.59	49.41	49.22	49.03	48.85	48.66	48.47	48.28	48.09	47.90	47.71	47.52
45.9	49.69	49.51	49.32	49.13	48.94	48.75	48.57	48.38	48.19	48.00	47.81	47.62
46	49.79	49.60	49.42	49.23	49.04	48.85	48.66	48.48	48.29	48.10	47.91	47.72
46.1	49.89	49.70	49.51	49.33	49.14	48.95	48.76	48.57	48.39	48.20	48.01	47.82
46.2	49.98	49.80	49.61	49.42	49.24	49.05	48.86	48.67	48.48	48.29	48.11	47.92
46.3	50.08	49.89	49.71	49.52	49.33	49.15	48.96	48.77	48.58	48.39	48.20	48.01
46.4	50.18	49.99	49.80	49.62	49.43	49.24	49.06	48.87	48.68	48.49	48.30	48.11
46.5	50.27	50.09	49.90	49.71	49.53	49.34	49.15	48.97	48.78	48.59	48.40	48.21
46.6	50.37	50.18	50.00	49.81	49.63	49.44	49.25	49.06	48.88	48.69	48.50	48.31
46.7	50.47	50.28	50.10	49.91	49.72	49.54	49.35	49.16	48.97	48.79	48.60	48.41
46.8	50.56	50.38	50.19	50.01	49.82	49.63	49.45	49.26	49.07	48.88	48.70	48.51
46.9	50.66	50.48	50.29	50.10	49.92	49.73	49.55	49.36	49.17	48.98	48.80	48.61
47	50.76	50.57	50.39	50.20	50.02	49.83	49.64	49.46	49.27	49.08	48.89	48.71
47.1	50.85	50.67	50.48	50.30	50.11	49.93	49.74	49.55	49.37	49.18	48.99	48.80
47.2	50.95	50.77	50.58	50.40	50.21	50.03	49.84	49.65	49.47	49.28	49.09	48.90
47.3	51.05	50.86	50.68	50.49	50.31	50.12	49.94	49.75	49.56	49.38	49.19	49.00
47.4	51.15	50.96	50.78	50.59	50.41	50.22	50.03	49.85	49.66	49.48	49.29	49.10
47.5	51.24	51.06	50.87	50.69	50.50	50.32	50.13	49.95	49.76	49.57	49.39	49.20
47.6	51.34	51.16	50.97	50.79	50.60	50.42	50.23	50.04	49.86	49.67	49.49	49.30
47.7	51.44	51.25	51.07	50.88	50.70	50.51	50.33	50.14	49.96	49.77	49.58	49.40
47.8	51.53	51.35	51.17	50.98	50.80	50.61	50.43	50.24	50.06	49.87	49.68	49.50
47.9	51.63	51.45	51.26	51.08	50.89	50.71	50.52	50.34	50.15	49.97	49.78	49.59
48	51.73	51.54	51.36	51.18	50.99	50.81	50.62	50.44	50.25	50.07	49.88	49.69
48.1	51.82	51.64	51.46	51.27	51.09	50.91	50.72	50.54	50.35	50.16	49.98	49.79

(续)

单位为%vol

℃

16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
45.36	45.16	44.97	44.77	44.58	44.38	44.19	44.00	43.80	43.60	43.41	43.21	43.02
45.45	45.26	45.07	44.87	44.68	44.48	44.29	44.10	43.90	43.70	43.51	43.31	43.12
45.55	45.36	45.17	44.97	44.78	44.58	44.39	44.19	44.00	43.80	43.61	43.41	43.22
45.65	45.46	45.27	45.07	44.88	44.68	44.49	44.29	44.10	43.91	43.71	43.51	43.32
45.75	45.56	45.36	45.17	44.98	44.78	44.59	44.39	44.20	44.01	43.81	43.62	43.42
45.85	45.66	45.46	45.27	45.08	44.88	44.69	44.49	44.30	44.11	43.91	43.72	43.52
45.95	45.76	45.56	45.37	45.18	44.98	44.79	44.59	44.40	44.21	44.01	43.82	43.62
46.05	45.85	45.66	45.47	45.28	45.08	44.89	44.69	44.50	44.31	44.11	43.92	43.72
46.15	45.95	45.76	45.57	45.37	45.18	45.99	44.79	44.60	44.41	44.21	44.02	43.82
46.24	46.05	45.86	45.67	45.47	45.28	45.09	44.89	44.70	44.51	44.31	44.12	43.92
46.34	46.15	45.96	45.77	45.57	45.38	45.19	44.99	44.80	44.61	44.41	44.22	44.02
46.44	46.25	46.06	45.87	45.67	45.48	45.29	45.09	44.90	44.71	44.51	44.32	44.12
46.54	46.35	46.16	45.96	45.77	45.58	45.39	45.19	45.00	44.81	44.61	44.42	44.22
46.64	46.45	46.26	46.06	45.87	45.68	45.49	45.29	45.10	44.91	44.71	44.52	44.32
46.74	46.55	46.36	46.16	45.97	45.78	45.59	45.39	45.20	45.01	44.81	44.62	44.43
46.84	46.65	46.45	46.26	46.07	45.88	45.69	45.49	45.30	45.11	44.91	44.72	44.53
46.94	46.75	46.55	46.36	46.17	45.98	45.79	45.59	45.40	45.21	45.01	44.82	44.63
47.03	46.84	46.65	46.46	46.27	46.08	45.89	45.69	45.50	45.31	45.11	44.92	44.73
47.13	46.94	46.75	46.56	46.37	46.18	45.98	45.79	45.60	45.41	45.21	45.02	44.83
47.23	47.04	46.85	46.66	46.47	46.28	46.08	45.89	45.70	45.51	45.31	45.12	44.93
47.33	47.14	46.95	46.76	46.57	46.38	46.18	45.99	45.80	45.61	45.41	45.22	45.03
47.43	47.24	47.05	46.86	46.67	46.48	46.28	46.09	45.90	45.71	45.51	45.32	45.13
47.53	47.34	47.15	46.96	46.77	46.58	46.38	46.19	46.00	45.81	45.62	45.42	45.23
47.63	47.44	47.25	47.06	46.87	46.67	46.48	46.29	46.10	45.91	45.72	45.52	45.33
47.73	47.54	47.35	47.16	46.97	46.77	46.58	46.39	46.20	46.01	45.82	45.62	45.43
47.83	47.64	47.45	47.26	47.06	46.87	46.68	46.49	46.30	46.11	45.92	45.72	45.53
47.92	47.73	47.54	47.35	47.16	46.97	46.78	46.59	46.40	46.21	46.02	45.82	45.63
48.02	47.83	47.64	47.45	47.26	47.07	46.88	46.69	46.50	46.31	46.12	45.92	45.73
48.12	47.93	47.74	47.55	47.36	47.17	46.98	46.79	46.60	46.41	46.22	46.03	45.83
48.22	48.03	47.84	47.65	47.46	47.27	47.08	46.89	46.70	46.51	46.32	46.13	45.93
48.32	48.13	47.94	47.75	47.56	47.37	47.18	46.99	46.80	46.61	46.42	46.23	46.03
48.42	48.23	48.04	47.85	47.66	47.47	47.28	47.09	46.90	46.71	46.52	46.33	46.13
48.52	48.33	48.14	47.95	47.76	47.57	47.38	47.19	47.00	46.81	46.62	46.43	46.24
48.62	48.43	48.24	48.05	47.86	47.67	47.48	47.29	47.10	46.91	46.72	46.53	46.34
48.71	48.53	48.34	48.15	47.96	47.77	47.58	47.39	47.20	47.01	46.82	46.63	46.44
48.81	48.63	48.44	48.25	48.06	47.87	47.68	47.49	47.30	47.11	46.92	46.73	46.54
48.91	48.72	48.54	48.35	48.16	47.97	47.78	47.59	47.40	47.21	47.02	46.83	46.64
49.01	48.82	48.64	48.45	48.26	48.07	47.88	47.69	47.50	47.31	47.12	46.93	46.74
49.11	48.92	48.73	48.55	48.36	48.17	47.98	47.79	47.60	47.41	47.22	47.03	46.84
49.21	49.02	48.83	48.65	48.46	48.27	48.08	47.89	47.70	47.51	47.32	47.13	46.94
49.31	49.12	48.93	48.74	48.56	48.37	48.18	47.99	47.80	47.61	47.42	47.23	47.04
49.41	49.22	49.03	48.84	48.66	48.47	48.28	48.09	47.90	47.71	47.52	47.33	47.14
49.51	49.32	49.13	48.94	48.76	48.57	48.38	48.19	48.00	47.81	47.62	47.43	47.24
49.60	49.42	49.23	49.04	48.85	48.67	48.48	48.29	48.10	47.91	47.72	47.53	47.34

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
48.2	51.92	51.74	51.56	51.37	51.19	51.00	50.82	50.63	50.45	50.26	50.08	49.89
48.3	52.02	51.84	51.65	51.47	51.29	51.10	50.92	50.73	50.55	50.36	50.17	49.99
48.4	52.12	51.93	51.75	51.57	51.38	51.20	51.01	50.83	50.64	50.46	50.27	50.09
48.5	52.21	52.03	51.85	51.66	51.48	51.30	51.11	50.93	50.74	50.56	50.37	50.19
48.6	52.31	52.13	51.94	51.76	51.58	51.39	51.21	51.03	50.84	50.66	50.47	50.28
48.7	52.41	52.22	52.04	51.86	51.68	51.49	51.31	51.12	50.94	50.75	50.57	50.38
48.8	52.50	52.32	52.14	51.96	51.77	51.59	51.41	51.22	51.04	50.85	50.67	50.48
48.9	52.60	52.42	52.24	52.05	51.87	51.69	51.50	51.32	51.14	50.95	50.77	50.58
49	52.70	52.52	52.33	52.15	51.97	51.79	51.60	51.42	51.23	51.05	50.87	50.68
49.1	52.80	52.61	52.43	52.25	52.07	51.88	51.70	51.52	51.33	51.15	50.96	50.78
49.2	52.89	52.71	52.53	52.35	52.16	51.98	51.80	51.61	51.43	51.25	51.06	50.88
49.3	52.99	52.81	52.63	52.44	52.26	52.08	51.90	51.71	51.53	51.35	51.16	50.98
49.4	53.09	52.91	52.72	52.54	52.36	52.18	51.99	51.81	51.63	51.44	51.26	51.07
49.5	53.18	53.00	52.82	52.64	52.46	52.28	52.09	51.91	51.73	51.54	51.36	51.17
49.6	53.28	53.10	52.92	52.74	52.56	52.37	52.19	52.01	51.82	51.64	51.46	51.27
49.7	53.38	53.20	53.02	52.84	52.65	52.47	52.29	52.11	51.92	51.74	51.56	51.37
49.8	53.48	53.29	53.11	52.93	52.75	52.57	52.39	52.20	52.02	51.84	51.65	51.47
49.9	53.57	53.39	53.21	53.03	52.85	52.67	52.48	52.30	52.12	51.94	51.75	51.57
50	53.67	53.49	53.31	53.13	52.95	52.76	52.58	52.40	52.22	52.03	51.85	51.67
50.1	53.77	53.59	53.41	53.23	53.04	52.86	52.68	52.50	52.32	52.13	51.95	51.77
50.2	53.86	53.68	53.50	53.32	53.14	52.96	52.78	52.60	52.41	52.23	52.05	51.86
50.3	53.96	53.78	53.60	53.42	53.24	53.06	52.88	52.69	52.51	52.33	52.15	51.96
50.4	54.06	53.88	53.70	53.52	53.34	53.16	52.97	52.79	52.61	52.43	52.25	52.06
50.5	54.16	53.98	53.80	53.62	53.44	53.25	53.07	52.89	52.71	52.53	52.34	52.16
50.6	54.25	54.07	53.89	53.71	53.53	53.35	53.17	52.99	52.81	52.63	52.44	52.26
50.7	54.35	54.17	53.99	53.81	53.63	53.45	53.27	53.09	52.91	52.72	52.54	52.36
50.8	54.45	54.27	54.09	53.91	53.73	53.55	53.37	53.19	53.00	52.82	52.64	52.46
50.9	54.55	54.37	54.19	54.01	53.83	53.65	53.47	53.28	53.10	52.92	52.74	52.56
51	54.64	54.46	54.28	54.10	53.92	53.74	53.56	53.38	53.20	53.02	52.84	52.66
51.1	54.74	54.56	54.38	54.20	54.02	53.84	53.66	53.48	53.30	53.12	52.94	52.75
51.2	54.84	54.66	54.48	54.30	54.12	53.94	53.76	53.58	53.40	53.22	53.03	52.85
51.3	54.93	54.76	54.58	54.40	54.22	54.04	53.86	53.68	53.50	53.32	53.13	52.95
51.4	55.03	54.85	54.67	54.50	54.32	54.14	53.96	53.78	53.59	53.41	53.23	53.05
51.5	55.13	54.95	54.77	54.59	54.41	54.23	54.05	53.87	53.69	53.51	53.33	53.15
51.6	55.23	55.05	54.87	54.69	54.51	54.33	54.15	53.97	53.79	53.61	53.43	53.25
51.7	55.32	55.15	54.97	54.79	54.61	54.43	54.25	54.07	53.89	53.71	53.53	53.35
51.8	55.42	55.24	55.06	54.89	54.71	54.53	54.35	54.17	53.99	53.81	53.63	53.45
51.9	55.52	55.34	55.16	54.98	54.81	54.63	54.45	54.27	54.09	53.91	53.73	53.54
52	55.62	55.44	55.26	55.08	54.90	54.72	54.54	54.37	54.19	54.01	53.82	53.64
52.1	55.71	55.54	55.36	55.18	55.00	54.82	54.64	54.46	54.28	54.10	53.92	53.74
52.2	55.81	55.63	55.46	55.28	55.10	54.92	54.74	54.56	54.38	54.20	54.02	53.84
52.3	55.91	55.73	55.55	55.38	55.20	55.02	54.84	54.66	54.48	54.30	54.12	53.94
52.4	56.01	55.83	55.65	55.47	55.29	55.12	54.94	54.76	54.58	54.40	54.22	54.04
52.5	56.10	55.93	55.75	55.57	55.39	55.21	55.04	54.86	54.68	54.50	54.32	54.14

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
49.70	49.52	49.33	49.14	48.95	48.77	48.58	48.39	48.20	48.01	47.82	47.63	47.44
49.80	49.62	49.43	49.24	49.05	48.87	48.68	48.49	48.30	48.11	47.92	47.73	47.54
49.90	49.71	49.53	49.34	49.15	48.97	48.78	48.59	48.40	48.21	48.02	47.83	47.64
50.00	49.81	49.63	49.44	49.25	49.06	48.88	48.69	48.50	48.31	48.12	47.93	47.74
50.10	49.91	49.73	49.54	49.35	49.16	<b>48.98</b>	<b>48.79</b>	48.60	48.41	48.22	48.03	47.84
50.20	50.01	49.83	49.64	49.45	49.26	49.08	48.89	<b>48.70</b>	48.51	48.32	48.13	47.94
50.30	50.11	49.92	49.74	<b>49.55</b>	49.36	<b>49.18</b>	48.99	48.80	48.61	48.42	48.23	48.05
50.40	50.21	50.02	49.84	49.65	<b>49.46</b>	49.28	49.09	48.90	<b>48.71</b>	48.52	48.33	48.15
50.49	50.31	50.12	49.94	<b>49.75</b>	49.56	49.38	49.19	49.00	<b>48.81</b>	48.62	48.43	48.25
50.59	50.41	50.22	<b>50.04</b>	49.85	49.66	49.48	49.29	49.10	48.91	48.72	48.54	48.35
50.69	50.51	50.32	<b>50.13</b>	49.95	<b>49.76</b>	49.57	<b>49.39</b>	49.20	<b>49.01</b>	48.82	48.64	48.45
50.79	50.61	50.42	<b>50.23</b>	<b>50.05</b>	<b>49.86</b>	<b>49.67</b>	<b>49.49</b>	<b>49.30</b>	49.11	48.92	48.74	48.55
50.89	30.70	50.52	50.33	<b>50.15</b>	<b>49.96</b>	<b>49.77</b>	<b>49.59</b>	<b>49.40</b>	49.21	49.02	48.84	48.65
50.99	50.80	50.62	50.43	<b>50.25</b>	<b>50.06</b>	<b>49.87</b>	<b>49.69</b>	<b>49.50</b>	49.31	49.12	48.94	48.75
51.09	50.90	50.72	50.53	<b>50.35</b>	<b>50.16</b>	49.97	<b>49.79</b>	<b>49.60</b>	49.41	49.23	49.04	48.85
51.19	51.00	50.82	50.63	<b>50.45</b>	<b>50.26</b>	50.07	<b>49.89</b>	<b>49.70</b>	49.51	49.33	49.14	48.95
51.29	51.10	<b>50.92</b>	50.73	<b>50.55</b>	<b>50.36</b>	<b>50.17</b>	49.99	<b>49.80</b>	49.61	49.43	49.24	49.05
51.38	51.20	<b>51.02</b>	50.83	<b>50.64</b>	<b>50.46</b>	<b>50.27</b>	<b>50.09</b>	<b>49.90</b>	49.71	49.53	49.34	49.15
51.48	51.30	<b>51.11</b>	50.93	<b>50.74</b>	<b>50.56</b>	50.37	50.19	<b>50.00</b>	49.81	49.63	49.44	49.25
51.58	51.40	<b>51.21</b>	51.03	<b>50.84</b>	<b>50.66</b>	50.47	<b>50.29</b>	<b>50.10</b>	49.91	<b>49.73</b>	49.54	49.35
51.68	51.50	<b>51.31</b>	51.13	<b>50.94</b>	<b>50.76</b>	<b>50.57</b>	<b>50.39</b>	<b>50.20</b>	50.01	49.83	49.64	49.45
51.78	51.60	<b>51.41</b>	51.23	<b>51.04</b>	<b>50.86</b>	<b>50.67</b>	50.49	<b>50.30</b>	50.11	49.93	49.74	49.55
51.88	51.70	51.51	51.33	51.14	<b>50.96</b>	50.77	<b>50.59</b>	<b>50.40</b>	50.21	50.03	49.84	49.65
51.98	51.79	51.61	51.43	51.24	<b>51.06</b>	50.87	<b>50.69</b>	<b>50.50</b>	50.31	50.13	49.94	49.75
52.08	51.89	51.71	51.53	51.34	<b>51.16</b>	<b>50.97</b>	<b>50.79</b>	<b>50.60</b>	50.41	50.23	50.04	49.85
52.18	51.99	51.81	51.62	51.44	<b>51.26</b>	<b>51.07</b>	<b>50.89</b>	<b>50.70</b>	50.51	50.33	50.14	49.96
52.27	52.09	51.91	51.72	51.54	51.36	<b>51.17</b>	50.99	<b>50.80</b>	50.61	50.43	50.24	50.06
52.37	52.19	52.01	51.82	51.64	51.45	51.27	51.09	50.90	50.71	50.53	50.34	50.16
52.47	52.29	52.11	51.92	51.74	51.55	51.37	51.19	51.00	50.81	50.63	50.44	50.26
52.57	52.39	52.21	52.02	51.84	51.65	51.47	51.29	51.10	50.91	50.73	50.54	50.36
52.67	52.49	52.30	52.12	51.94	51.75	51.57	51.38	51.20	51.01	50.83	50.64	50.46
52.77	52.59	52.40	52.22	52.04	51.85	<b>51.67</b>	51.48	51.30	51.11	50.93	50.74	50.56
52.87	52.69	52.50	52.32	52.14	51.95	51.77	51.58	51.40	51.22	51.03	50.84	50.66
52.97	52.78	52.60	52.42	52.24	52.05	<b>51.87</b>	<b>51.68</b>	51.50	51.32	51.13	50.94	50.76
53.07	52.88	52.70	52.52	52.34	52.15	51.97	51.78	51.60	51.42	51.23	51.05	50.86
53.17	52.98	52.80	52.62	52.44	52.25	52.07	51.88	51.70	51.52	51.33	51.15	50.96
53.26	53.08	52.90	52.72	52.53	52.35	52.17	51.98	51.80	51.62	51.43	51.25	51.06
53.36	53.18	53.00	52.82	52.63	52.45	52.27	52.08	51.90	51.72	51.53	51.35	51.16
53.46	53.28	53.10	52.92	52.73	52.55	52.37	52.18	52.00	51.82	51.63	51.45	51.26
53.56	53.38	53.20	53.02	52.83	52.65	52.47	52.28	52.10	51.92	51.73	51.55	51.36
53.66	53.48	53.30	53.11	52.93	52.75	52.57	52.38	52.20	52.02	51.83	51.65	51.46
53.76	53.58	53.40	53.21	53.03	52.85	52.67	52.48	52.30	52.12	51.93	51.75	51.56
53.86	53.68	53.50	53.31	53.13	52.95	52.77	52.58	52.30	52.22	52.03	51.85	51.66
53.96	53.78	53.59	53.41	53.23	53.05	52.87	52.68	52.50	52.32	52.13	51.95	51.76

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
52.6	56.20	56.02	55.85	55.67	55.49	55.31	55.13	54.96	54.78	54.60	54.42	54.24
52.7	56.30	56.12	55.94	55.77	55.59	55.41	55.23	55.05	54.87	54.70	54.52	54.34
52.8	56.39	56.22	56.04	55.86	55.69	55.51	55.33	55.15	54.97	54.79	54.61	54.43
52.9	56.49	56.32	56.14	55.96	55.78	55.61	55.43	55.25	55.07	54.89	54.71	54.53
53	56.59	56.41	56.24	56.06	55.88	55.70	55.53	55.35	55.17	54.99	54.81	54.63
53.1	56.69	56.51	56.33	56.16	55.98	55.80	55.63	55.45	55.27	55.09	54.91	54.73
53.2	56.78	56.61	56.43	56.26	56.08	55.90	55.72	55.55	55.37	55.19	55.01	54.83
53.3	56.88	56.71	56.53	56.35	56.18	56.00	55.82	55.64	55.47	55.29	55.11	54.93
53.4	56.98	56.80	56.63	56.45	56.27	56.10	55.92	55.74	55.56	55.39	55.21	55.03
53.5	57.08	56.90	56.73	56.55	56.37	56.20	56.02	55.84	55.66	55.48	55.31	55.13
53.6	57.17	57.00	56.82	56.65	56.47	56.29	56.12	55.94	55.76	55.58	55.40	55.23
53.7	57.27	57.10	56.92	56.74	56.57	56.39	56.21	56.04	55.86	55.68	55.50	55.32
53.8	57.37	57.19	57.02	56.84	56.67	56.49	56.31	56.14	55.96	55.78	55.60	55.42
53.9	57.47	57.29	57.12	56.94	56.76	56.59	56.41	56.23	56.06	55.88	55.70	55.52
54	57.56	57.39	57.21	57.04	56.86	56.69	56.51	56.33	56.15	55.98	55.80	55.62
54.1	57.66	57.49	57.31	57.14	56.96	56.78	56.61	56.43	56.25	56.08	55.90	55.72
54.2	57.76	57.58	57.41	57.23	57.06	56.88	56.71	56.53	56.35	56.17	56.00	55.82
54.3	57.86	57.68	57.51	57.33	57.16	56.98	56.80	56.63	56.45	56.27	56.10	55.92
54.4	57.95	57.78	57.61	57.43	57.25	57.08	56.90	56.73	56.55	56.37	56.19	56.02
54.5	58.05	57.88	57.70	57.53	57.35	57.18	57.00	56.82	56.65	56.47	56.29	56.12
54.6	58.15	57.98	57.80	57.63	57.45	57.27	57.10	56.92	56.75	56.57	56.39	56.21
54.7	58.25	58.07	57.90	57.72	57.55	57.37	57.20	57.02	56.84	56.67	56.49	56.31
54.8	58.34	58.17	58.00	57.82	57.65	57.47	57.30	57.12	56.94	56.77	56.59	56.41
54.9	58.44	58.27	58.09	57.92	57.74	57.57	57.39	57.22	57.04	56.87	56.69	56.51
55	58.54	58.37	58.19	58.02	57.84	57.67	57.49	57.32	57.14	56.96	56.79	56.61
55.1	58.64	58.46	58.29	58.12	57.94	57.77	57.59	57.41	57.24	57.06	56.89	56.71
55.2	58.73	58.56	58.39	58.21	58.04	57.86	57.69	57.51	57.34	57.16	56.98	56.81
55.3	58.83	58.66	58.49	58.31	58.14	57.96	57.79	57.61	57.44	57.26	57.08	56.91
55.4	58.93	58.76	58.58	58.41	58.23	58.06	57.89	57.71	57.53	57.36	57.18	57.01
55.5	59.03	58.85	58.68	58.51	58.33	58.16	57.98	57.81	57.63	57.46	57.28	57.10
55.6	59.13	58.95	58.78	58.61	58.43	58.26	58.08	57.91	57.73	57.56	57.38	57.20
55.7	59.22	59.05	58.88	58.70	58.53	58.35	58.18	58.01	57.83	57.65	57.48	57.30
55.8	59.32	59.15	58.97	58.80	58.63	58.45	58.28	58.10	57.93	57.75	57.58	57.40
55.9	59.42	59.25	59.07	58.90	58.73	58.55	58.38	58.20	58.03	57.85	57.68	57.50
56	59.52	59.34	59.17	59.00	58.82	58.65	58.48	58.30	58.13	57.95	57.77	57.60
56.1	59.61	59.44	59.27	59.10	58.92	58.75	58.57	58.40	58.22	58.05	57.87	57.70
56.2	59.71	59.54	59.37	59.19	59.02	58.85	58.67	58.50	58.32	58.15	57.97	57.80
56.3	59.81	59.64	59.46	59.29	59.12	58.94	58.77	58.60	58.42	58.25	58.07	57.90
56.4	59.91	59.73	59.56	59.39	59.22	59.04	58.87	58.69	58.52	58.35	58.17	57.99
56.5	60.00	59.83	59.66	59.49	59.31	59.14	58.97	58.79	58.62	58.44	58.27	58.09
56.6	60.10	59.93	59.76	59.59	59.41	59.24	59.07	58.89	58.72	58.54	58.37	58.19
56.7	60.20	60.03	59.86	59.68	59.51	59.34	59.16	58.99	58.82	58.64	58.47	58.29
56.8	60.30	60.13	59.95	59.78	59.61	59.44	59.26	59.09	58.91	58.74	58.57	58.39
56.9	60.39	60.22	60.05	59.88	59.71	59.53	59.36	59.19	59.01	58.84	58.66	58.49

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
54.06	53.88	53.69	53.51	53.33	53.15	52.97	52.78	52.60	52.42	52.23	52.05	51.86
54.15	53.97	53.79	53.61	53.43	53.25	53.07	52.88	52.70	52.52	52.33	52.15	51.97
54.25	54.07	53.89	53.71	53.53	53.35	53.17	52.98	52.80	52.62	52.43	52.25	52.07
54.35	54.17	53.99	53.81	53.63	53.45	53.27	53.08	52.90	52.72	52.53	52.35	52.17
54.45	54.27	54.09	53.91	53.73	53.55	53.36	53.18	53.00	52.82	52.63	52.45	52.27
54.55	54.37	54.19	54.01	53.83	53.65	53.46	53.28	53.10	52.92	52.73	52.55	52.37
54.65	54.47	54.29	54.11	53.93	53.75	53.56	53.38	53.20	53.02	52.83	52.65	52.47
54.75	54.57	54.39	54.21	54.03	53.85	53.66	53.48	53.30	53.12	52.93	52.75	52.57
54.85	54.67	54.49	54.31	54.13	53.95	53.76	53.58	53.40	53.22	53.03	52.85	52.67
54.95	54.77	54.59	54.41	54.23	54.04	53.86	53.68	53.50	53.32	53.14	52.95	52.77
55.05	54.87	54.69	54.51	54.33	54.14	53.96	53.78	53.60	53.42	53.24	53.05	52.87
55.14	54.97	54.79	54.61	54.42	54.24	54.06	53.88	53.70	53.52	53.34	53.15	52.97
55.24	55.06	54.88	54.70	54.52	54.34	54.16	53.98	53.80	53.62	53.44	53.25	53.07
55.34	55.16	54.98	54.80	54.62	54.44	54.26	54.08	53.90	53.72	53.54	53.35	53.17
55.44	55.26	55.08	54.90	54.72	54.54	54.36	54.18	54.00	53.82	53.64	53.45	53.27
55.54	55.36	55.18	55.00	54.82	54.64	54.46	54.28	54.10	53.92	53.74	53.55	53.37
55.64	55.46	55.28	55.10	54.92	54.74	54.56	54.38	54.20	54.02	53.84	53.65	53.47
55.74	55.56	55.38	55.20	55.02	54.84	54.66	54.48	54.30	54.12	53.94	53.76	53.57
55.84	55.66	55.48	55.30	55.12	54.94	54.76	54.58	54.40	54.22	54.04	53.86	53.67
55.94	55.76	55.58	55.40	55.22	55.04	54.86	54.68	54.50	54.32	54.14	53.96	53.77
56.04	55.86	55.68	55.50	55.32	55.14	54.96	54.78	54.60	54.42	54.24	54.06	53.87
56.14	55.96	55.78	55.60	55.42	55.24	55.06	54.88	54.70	54.52	54.34	54.16	53.97
56.23	56.06	55.88	55.70	55.52	55.34	55.16	54.98	54.80	54.62	54.44	54.26	54.08
56.33	56.16	55.98	55.80	55.62	55.44	55.26	55.08	54.90	54.72	54.54	54.36	54.18
56.43	56.25	56.08	55.90	55.72	55.54	55.36	55.18	55.00	54.82	54.64	54.46	54.28
56.53	56.35	56.18	56.00	55.82	55.64	55.46	55.28	55.10	54.92	54.74	54.56	54.38
56.63	56.45	56.27	56.10	55.92	55.74	55.56	55.38	55.20	55.02	54.84	54.66	54.48
56.73	56.55	56.37	56.20	56.02	55.84	55.66	55.48	55.30	55.12	54.94	54.76	54.58
56.83	56.65	56.47	56.30	56.12	55.94	55.76	55.58	55.40	55.22	55.04	54.86	54.68
56.93	56.75	56.57	56.39	56.22	56.04	55.86	55.68	55.50	55.32	55.14	54.96	54.78
57.03	56.85	56.67	56.49	56.32	56.14	55.96	55.78	55.60	55.42	55.24	55.06	54.88
57.13	56.95	56.77	56.59	56.42	56.24	56.06	55.88	55.70	55.52	55.34	55.16	54.98
57.22	57.05	56.87	56.69	56.51	56.34	56.16	55.98	55.80	55.62	55.44	55.26	55.08
57.32	57.15	56.97	56.79	56.61	56.44	56.26	56.08	55.90	55.72	55.54	55.36	55.18
57.42	57.25	57.07	56.89	56.71	56.54	56.36	56.18	56.00	55.82	55.64	55.46	55.28
57.52	57.35	57.17	56.99	56.81	56.64	56.46	56.28	56.10	55.92	55.74	55.56	55.38
57.62	57.44	57.27	57.09	56.91	56.74	56.56	56.38	56.20	56.02	55.84	55.66	55.48
57.72	57.54	57.37	57.19	57.01	56.83	56.66	56.48	56.30	56.12	55.94	55.76	55.58
57.82	57.64	57.47	57.29	57.11	56.93	56.76	56.58	56.40	56.22	56.04	55.86	55.68
57.92	57.74	57.57	57.39	57.21	57.03	56.86	56.68	56.50	56.32	56.14	55.96	55.78
58.02	57.84	57.66	57.49	57.31	57.13	56.96	56.78	56.60	56.42	56.24	56.06	55.88
58.12	57.94	57.76	57.59	57.41	57.23	57.06	56.88	56.70	56.52	56.34	56.16	55.98
58.22	58.04	57.86	57.69	57.51	57.33	57.16	56.98	56.80	56.62	56.44	56.26	56.08
58.31	58.14	57.96	57.79	57.61	57.43	57.26	57.08	56.90	56.72	56.54	56.36	56.19

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
57	60.49	60.32	60.15	59.98	59.80	59.63	59.46	59.29	59.11	58.94	58.76	58.59
57.1	60.59	60.42	60.25	60.08	59.90	59.73	59.56	59.38	59.21	59.04	58.86	58.69
57.2	60.69	60.52	60.34	60.17	60.00	59.83	59.66	59.48	59.31	59.14	58.96	58.79
57.3	60.79	60.61	60.44	60.27	60.10	59.93	59.75	59.58	59.41	59.23	59.06	58.89
57.4	60.88	60.71	60.54	60.37	60.20	60.03	59.85	59.68	59.51	59.33	59.16	58.98
57.5	60.98	60.81	60.64	60.47	60.30	60.12	59.95	59.78	59.60	59.43	59.26	59.08
57.6	61.08	60.91	60.74	60.57	60.39	60.22	60.05	59.88	59.70	59.53	59.36	59.18
57.7	61.18	61.01	60.83	60.66	60.49	60.32	60.15	59.97	59.80	59.63	59.46	59.28
57.8	61.27	61.10	60.93	60.76	60.59	60.42	60.25	60.07	59.90	59.73	59.55	59.38
57.9	61.37	61.20	61.03	60.86	60.69	60.52	60.34	60.17	60.00	59.83	59.65	59.48
58	61.47	61.30	61.13	60.96	60.79	60.61	60.44	60.27	60.10	59.92	59.75	59.58
58.1	61.57	61.40	61.23	61.06	60.88	60.71	60.54	60.37	60.20	60.02	59.85	59.68
58.2	61.66	61.49	61.32	61.15	60.98	60.81	60.64	60.47	60.30	60.12	59.95	59.78
58.3	61.76	61.59	61.42	61.25	61.08	60.91	60.74	60.57	60.39	60.22	60.05	59.87
58.4	61.86	61.69	61.52	61.35	61.18	61.01	60.84	60.66	60.49	60.32	60.15	59.97
58.5	61.96	61.79	61.62	61.45	61.28	61.11	60.93	60.76	60.59	60.42	60.25	60.07
58.6	62.06	61.89	61.72	61.55	61.38	61.20	61.03	60.86	60.69	60.52	60.34	60.17
58.7	62.15	61.98	61.81	61.64	61.47	61.30	61.13	60.96	60.79	60.62	60.44	60.27
58.8	62.25	62.08	61.91	61.74	61.57	61.40	61.23	61.06	60.89	60.71	60.54	60.37
58.9	62.35	62.18	62.01	61.84	61.67	61.50	61.33	61.16	60.99	60.81	60.64	60.47
59	62.45	62.28	62.11	61.94	61.77	61.60	61.43	61.26	61.08	60.91	60.74	60.57
59.1	62.54	62.38	62.21	62.04	61.87	61.70	61.53	61.35	61.18	61.01	60.84	60.67
59.2	62.64	62.47	62.30	62.13	61.96	61.79	61.62	61.45	61.28	61.11	60.94	60.77
59.3	62.74	62.57	62.40	62.23	62.06	61.89	61.72	61.55	61.38	61.21	61.04	60.86
59.4	62.84	62.67	62.50	62.33	62.16	61.99	61.82	61.65	61.48	61.31	61.14	60.96
59.5	62.93	62.77	62.60	62.43	62.26	62.09	61.92	61.75	61.58	61.41	61.23	61.06
59.6	63.03	62.86	62.70	62.53	62.36	62.19	62.02	61.85	61.68	61.50	61.33	61.16
59.7	63.13	62.96	62.79	62.62	62.45	62.29	62.12	61.95	61.77	61.60	61.43	61.26
59.8	63.23	63.06	62.89	62.72	62.55	62.38	62.21	62.04	61.87	61.70	61.53	61.36
59.9	63.33	63.16	62.99	62.82	62.65	62.48	62.31	62.14	61.97	61.80	61.63	61.46
60	63.42	63.26	63.09	62.92	62.75	62.58	62.41	62.24	62.07	61.90	61.73	61.56
60.1	63.52	63.35	63.19	63.02	62.85	62.68	62.51	62.34	62.17	62.00	61.83	61.66
60.2	63.62	63.45	63.28	63.11	62.95	62.78	62.61	62.44	62.27	62.10	61.93	61.76
60.3	63.72	63.55	63.38	63.21	63.04	62.88	62.71	62.54	62.37	62.20	62.03	61.85
60.4	63.81	63.65	63.48	63.31	63.14	62.97	62.80	62.64	62.47	62.30	62.12	61.95
60.5	63.91	63.74	63.58	63.41	63.24	63.07	62.90	62.73	62.56	62.39	62.22	62.05
60.6	64.01	63.84	63.68	63.51	63.34	63.17	63.00	62.83	62.66	62.49	62.32	62.15
60.7	64.11	63.94	63.77	63.61	63.44	63.27	63.10	62.93	62.76	62.59	62.42	62.25
60.8	64.21	64.04	63.87	63.70	63.54	63.37	63.20	63.03	62.86	62.69	62.52	62.35
60.9	64.30	64.14	63.97	63.80	63.63	63.47	63.30	63.13	62.96	62.79	62.62	62.45
61	64.40	64.23	64.07	63.90	63.73	63.56	63.40	63.23	63.06	62.89	62.72	62.55
61.1	64.50	64.33	64.17	64.00	63.83	63.66	63.49	63.32	63.16	62.99	62.82	62.65
61.2	64.60	64.43	64.26	64.10	63.93	63.76	63.59	63.42	63.25	63.09	62.92	62.75
61.3	64.69	64.53	64.36	64.19	64.03	63.86	63.69	63.52	63.35	63.18	63.01	62.84

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
58.41	58.24	58.06	57.89	57.71	57.53	57.36	57.18	57.00	56.82	56.64	56.46	56.29
58.51	58.34	58.16	57.99	57.81	57.63	57.46	57.28	57.10	56.92	56.74	56.56	56.39
58.61	58.44	58.26	58.08	57.91	57.73	57.55	57.38	57.20	57.02	56.84	56.67	56.49
58.71	58.54	58.36	58.18	58.01	57.83	57.65	57.48	57.30	57.12	56.94	56.77	56.59
58.81	58.63	58.46	58.28	58.11	57.93	57.75	57.58	57.40	57.22	57.04	56.87	56.69
58.91	58.73	58.56	58.38	58.21	58.03	57.85	57.68	57.50	57.32	57.14	56.97	56.79
59.01	58.83	58.66	58.48	58.31	58.13	57.95	57.78	57.60	57.42	57.24	57.07	56.89
59.11	58.93	58.76	58.58	58.41	58.23	58.05	57.88	57.70	57.52	57.35	57.17	56.99
59.21	59.03	58.86	58.68	58.51	58.33	58.15	57.98	57.80	57.62	57.45	57.27	57.09
59.30	59.13	58.96	58.78	58.61	58.43	58.25	58.08	57.90	57.72	57.55	57.37	57.19
59.40	59.23	59.06	58.88	58.70	58.53	58.35	58.18	58.00	57.82	57.65	57.47	57.29
59.50	59.33	59.15	58.98	58.80	58.63	58.45	58.28	58.10	57.92	57.75	57.57	57.39
59.60	59.43	59.25	59.08	58.90	58.73	58.55	58.38	58.20	58.02	57.85	57.67	57.49
59.70	59.53	59.35	59.18	59.00	58.83	58.65	58.48	58.30	58.12	57.95	57.77	57.59
59.80	59.63	59.45	59.28	59.10	58.93	58.75	58.58	58.40	58.22	58.05	57.87	57.69
59.90	29.73	59.55	59.38	59.20	59.03	58.85	58.68	58.50	58.32	58.15	57.97	57.79
60.00	59.82	59.65	59.48	59.30	59.13	58.95	58.78	58.60	58.42	58.25	58.07	57.89
60.10	59.92	59.75	59.58	59.40	59.23	59.05	58.88	58.70	58.52	58.35	58.17	57.99
60.20	60.02	59.85	59.68	59.50	59.33	59.15	58.98	58.80	58.62	58.45	58.27	58.09
60.30	60.12	59.95	59.77	59.60	59.43	59.25	59.08	58.90	58.72	58.55	58.37	58.19
60.39	60.22	60.05	59.87	59.70	59.53	59.35	59.18	59.00	58.82	58.65	58.47	58.29
60.49	60.32	60.15	59.97	59.80	59.63	59.45	59.28	59.10	58.92	58.75	58.57	58.39
60.59	60.42	60.25	60.07	59.90	59.72	59.55	59.38	59.20	59.02	58.85	58.67	58.50
60.69	60.52	60.35	60.17	60.00	59.82	59.65	59.48	59.30	59.12	58.95	58.77	58.60
60.79	60.62	60.45	60.27	60.10	59.92	59.75	59.58	59.40	59.22	59.05	58.87	58.70
60.89	60.72	60.54	60.37	60.20	60.02	59.85	59.68	59.50	59.32	59.15	58.97	58.80
60.99	60.82	60.64	60.47	60.30	60.12	59.95	59.77	59.60	59.42	59.25	59.07	58.90
61.09	60.92	60.74	60.57	60.40	60.22	60.05	59.87	59.70	59.52	59.35	59.17	59.00
61.19	61.02	60.84	60.67	60.50	60.32	60.15	59.97	59.80	59.63	59.45	59.27	59.10
61.29	61.11	60.94	60.77	60.60	60.42	60.25	60.07	59.90	59.73	59.55	59.37	59.20
61.39	61.21	61.04	60.87	60.70	60.52	60.35	60.17	60.00	59.83	59.65	59.47	59.30
61.49	61.31	61.14	60.97	60.80	60.62	60.45	60.27	60.10	59.93	59.75	59.58	59.40
61.58	61.41	61.24	61.07	60.89	60.72	60.55	60.37	60.20	60.03	59.85	59.68	59.50
61.68	61.51	61.34	61.17	60.99	60.82	60.65	60.47	60.30	60.13	59.95	59.78	59.60
61.78	61.61	61.44	61.27	61.09	60.92	60.75	60.57	60.40	60.23	60.05	59.88	59.70
61.88	61.71	61.54	61.37	61.19	61.02	60.85	60.67	60.50	60.33	60.15	59.98	59.80
61.98	61.81	61.64	61.47	61.29	61.12	60.95	60.77	60.60	60.43	60.25	60.08	59.90
62.08	61.91	61.74	61.56	61.39	61.22	61.05	60.87	60.70	60.53	60.35	60.18	60.00
62.18	62.01	61.84	61.66	61.49	61.32	61.15	60.97	60.80	60.63	60.45	60.28	60.10
62.28	62.11	61.94	61.76	61.59	61.42	61.25	61.07	60.90	60.73	60.55	60.38	60.20
62.38	62.21	62.03	61.86	61.69	61.52	61.35	61.17	61.00	60.83	60.65	60.48	60.30
62.48	62.31	62.13	61.96	61.79	61.62	61.45	61.27	61.10	60.93	60.75	60.58	60.40
62.58	62.40	62.23	62.06	61.89	61.72	61.55	61.37	61.20	61.03	60.85	60.68	60.50
62.67	62.50	62.33	62.16	61.99	61.82	61.65	61.47	61.30	61.13	60.95	60.78	60.60



表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
61.4	64.79	64.63	64.46	64.29	64.12	63.96	63.79	63.62	63.45	63.28	63.11	62.94
61.5	64.89	64.72	64.56	64.39	64.22	64.06	63.89	63.72	63.55	63.38	63.21	63.04
61.6	64.99	64.82	64.65	64.49	64.32	64.15	63.99	63.82	63.65	63.48	63.31	63.14
61.7	65.09	64.92	64.75	64.59	64.42	64.25	64.08	63.92	63.75	63.58	63.41	63.24
61.8	65.18	65.02	64.85	64.68	64.52	64.35	64.18	64.01	63.85	63.68	63.51	63.34
61.9	65.28	65.11	64.95	64.78	64.62	64.45	64.28	64.11	63.94	63.78	63.61	63.44
62	65.38	65.21	65.05	64.88	64.71	64.55	64.38	64.21	64.04	63.88	63.71	63.54
62.1	65.48	65.31	65.14	64.98	64.81	64.65	64.48	64.31	64.14	63.97	63.81	63.64
62.2	65.57	65.41	65.24	65.08	64.91	64.74	64.58	64.41	64.24	64.07	63.90	63.74
62.3	65.67	65.51	65.34	65.17	65.01	64.84	64.67	64.51	64.34	64.17	64.00	63.83
62.4	65.77	65.60	65.44	65.27	65.11	64.94	64.77	64.61	64.44	64.27	64.10	63.93
62.5	65.87	65.70	65.54	65.37	65.20	65.04	64.87	64.70	64.54	64.37	64.20	64.03
62.6	65.96	65.80	65.63	65.47	65.30	65.14	64.97	64.80	64.64	64.47	64.30	64.13
62.7	66.06	65.90	65.73	65.57	65.40	65.23	65.07	64.90	64.73	64.57	64.40	64.23
62.8	66.16	66.00	65.83	65.67	65.50	65.33	65.17	65.00	64.83	64.67	64.50	64.33
62.9	66.26	66.09	65.93	65.76	65.60	65.43	65.27	65.10	64.93	64.76	64.60	64.43
63	66.36	66.19	66.03	65.86	65.70	65.53	65.36	65.20	65.03	64.86	64.70	64.53
63.1	66.45	66.29	66.12	65.96	65.79	65.63	65.46	65.30	65.13	64.96	64.79	64.63
63.2	66.55	66.39	66.22	66.06	65.89	65.73	65.56	65.39	65.23	65.06	64.89	64.73
63.3	66.65	66.48	66.32	66.16	65.99	65.82	65.66	65.49	65.33	65.16	64.99	64.82
63.4	66.75	66.58	66.42	66.25	66.09	65.92	65.76	65.59	65.42	65.26	65.09	64.92
63.5	66.84	66.68	66.52	66.35	66.19	66.02	65.86	65.69	65.52	65.36	65.19	65.02
63.6	66.94	66.78	66.61	66.45	66.28	66.12	65.95	65.79	65.62	65.46	65.29	65.12
63.7	67.04	66.88	66.71	66.55	66.38	66.22	66.05	65.89	65.72	65.55	65.39	65.22
63.8	67.14	66.97	66.81	66.65	66.48	66.32	66.15	65.99	65.82	65.65	65.49	65.32
63.9	67.24	67.07	66.91	66.74	66.58	66.41	66.25	66.08	65.92	65.75	65.58	65.42
64	67.33	67.17	67.01	66.84	66.68	66.51	66.35	66.18	66.02	65.85	65.68	65.52
64.1	67.43	67.27	67.10	66.94	66.78	66.61	66.45	66.28	66.11	65.95	65.78	65.62
64.2	67.53	67.37	67.20	67.04	66.87	66.71	66.54	66.38	66.21	66.05	65.88	65.71
64.3	67.63	67.46	67.30	67.14	66.97	66.81	66.64	66.48	66.31	66.15	65.98	65.81
64.4	67.72	67.56	67.40	67.23	67.07	66.91	66.74	66.58	66.41	66.25	66.08	65.91
64.5	67.82	67.66	67.50	67.33	67.17	67.00	66.84	66.67	66.51	66.34	66.18	66.01
64.6	67.92	67.76	67.59	67.43	67.27	67.10	66.94	66.77	66.61	66.44	66.28	66.11
64.7	68.02	67.85	67.69	67.53	67.36	67.20	67.04	66.87	66.71	66.54	66.38	66.21
64.8	68.11	67.95	67.79	67.63	67.46	67.30	67.13	66.97	66.81	66.64	66.47	66.31
64.9	68.21	68.05	67.89	67.72	67.56	67.40	67.23	67.07	66.90	66.74	66.57	66.41
65	68.31	68.15	67.99	67.82	67.66	67.50	67.33	67.17	67.00	66.84	66.67	66.51
65.1	68.41	68.25	68.08	67.92	67.76	67.59	67.43	67.27	67.10	66.94	66.77	66.61
65.2	68.51	68.34	68.18	68.02	67.86	67.69	67.53	67.36	67.20	67.04	66.87	66.70
65.3	68.60	68.44	68.28	68.12	67.95	67.79	67.63	67.46	67.30	67.13	66.97	66.80
65.4	68.70	68.54	68.38	68.21	68.05	67.89	67.72	67.56	67.40	67.23	67.07	66.90
65.5	68.80	68.64	68.47	68.31	68.15	67.99	67.82	67.66	67.50	67.33	67.17	67.00
65.6	68.90	68.73	68.57	68.41	68.25	68.08	67.92	67.76	67.59	67.43	67.27	67.10
65.7	68.99	68.83	68.67	68.51	68.35	68.18	68.02	67.86	67.69	67.53	67.36	67.20

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
62.77	65.60	62.43	62.26	62.09	61.92	61.75	61.57	61.40	61.23	61.05	60.88	60.71
62.87	62.70	62.53	62.36	62.19	62.02	61.85	61.67	61.50	61.33	61.15	60.98	60.81
62.97	62.80	62.63	62.46	62.29	62.12	61.94	61.77	61.60	61.43	61.25	61.08	60.91
63.07	62.90	62.73	62.56	62.39	62.22	62.04	61.87	61.70	61.53	61.35	61.18	61.01
63.17	63.00	62.83	62.66	62.49	62.32	62.14	61.07	61.80	61.63	61.45	61.28	61.11
63.27	63.10	62.93	62.76	62.59	62.42	62.24	62.07	61.90	61.73	61.55	61.38	61.21
63.37	63.20	63.03	62.86	62.69	62.52	62.34	62.17	62.00	61.83	61.65	61.48	61.31
63.47	63.30	63.13	62.96	62.79	62.62	62.44	62.27	62.10	61.93	61.75	61.58	61.41
63.57	63.40	63.23	63.06	62.89	62.71	62.54	62.37	62.20	62.03	61.86	61.68	61.51
63.67	63.50	63.33	63.16	62.99	62.81	62.64	62.47	62.30	62.13	61.96	61.78	61.61
63.76	63.60	63.43	63.26	63.08	62.91	62.74	62.57	62.40	62.23	62.06	61.88	61.71
63.86	63.69	63.52	63.35	63.18	63.01	62.84	62.67	62.50	62.33	62.16	61.98	61.81
63.96	63.79	63.62	63.45	63.28	63.11	62.94	62.77	62.60	62.43	62.26	62.08	61.91
64.06	63.89	63.72	63.55	63.38	63.21	63.04	62.87	62.70	62.53	62.36	62.18	62.01
64.16	63.99	63.82	63.65	63.48	63.31	63.14	62.97	62.80	62.63	62.46	62.28	62.11
64.26	64.09	63.92	63.75	63.58	63.41	63.24	63.07	62.90	62.73	62.56	62.38	62.21
64.36	64.19	64.02	63.85	63.68	63.51	63.34	63.17	63.00	62.83	62.66	62.48	62.31
64.46	64.29	64.12	63.95	63.78	63.61	63.44	63.27	63.10	62.93	62.76	62.59	62.41
64.56	64.39	64.22	64.05	63.88	63.71	63.54	63.37	63.20	63.03	62.86	62.69	62.51
64.66	64.49	64.32	64.15	63.98	63.81	63.64	63.47	63.30	63.13	62.96	62.79	62.61
64.76	64.59	64.42	64.25	64.08	63.91	63.74	63.57	63.40	63.23	63.06	62.89	62.71
64.85	64.69	64.52	64.35	64.18	64.01	63.84	63.67	63.50	63.33	63.16	62.99	62.81
64.95	64.79	64.62	64.45	64.28	64.11	63.94	63.77	63.60	63.43	63.26	63.09	62.91
65.05	64.88	64.72	64.55	64.38	64.21	64.04	63.87	63.70	63.53	63.36	63.19	63.02
65.15	64.98	64.82	64.65	64.48	64.31	64.14	63.97	63.80	63.63	63.46	63.29	63.12
65.25	65.08	64.92	64.75	64.58	64.41	64.24	64.07	63.90	63.73	63.56	63.39	63.22
65.35	65.18	65.01	64.85	64.68	64.51	64.34	64.17	64.00	63.83	63.66	63.49	63.32
65.45	65.28	65.11	64.95	64.78	64.61	64.44	64.27	64.10	63.93	63.76	63.59	63.42
65.55	65.38	65.21	65.05	64.88	64.71	64.54	64.37	64.20	64.03	63.86	63.69	63.52
65.65	65.48	65.31	65.14	64.98	64.81	64.64	64.47	64.30	64.13	63.96	63.79	63.62
65.75	65.58	65.41	65.24	65.08	64.91	64.74	64.57	64.40	64.23	64.06	63.89	63.72
65.85	65.68	65.51	65.34	65.18	65.01	64.84	64.67	64.50	64.33	64.16	63.99	63.82
65.94	65.78	65.61	65.44	65.27	65.11	64.94	64.77	64.60	64.43	64.26	64.09	63.92
66.04	65.88	65.71	65.54	65.37	65.21	65.04	64.87	64.71	64.53	64.36	64.19	64.02
66.14	65.98	65.81	65.64	65.47	65.31	65.14	64.97	64.80	64.63	64.46	64.29	64.12
66.24	66.08	65.91	65.74	65.57	65.41	65.24	65.07	64.90	64.73	64.56	64.39	64.22
66.34	66.17	66.01	65.84	65.67	65.51	65.34	65.17	65.00	64.83	64.66	64.49	64.32
66.44	66.27	66.11	65.94	65.77	65.61	65.44	65.27	65.10	64.93	64.76	64.59	64.42
66.54	66.37	66.21	66.04	65.87	65.70	65.54	65.37	65.20	65.03	64.86	64.69	64.52
66.64	66.47	66.31	66.14	65.97	65.80	65.64	65.47	65.30	65.13	64.96	64.79	64.62
66.74	66.57	66.40	66.24	66.07	65.90	65.74	65.57	65.40	65.23	65.06	64.89	64.72
66.84	66.67	66.50	66.34	66.17	66.00	65.84	65.67	65.50	65.33	65.16	64.99	64.82
66.94	66.77	66.60	66.44	66.27	66.10	65.94	65.77	65.60	65.43	65.26	65.09	64.92
67.03	66.87	66.70	66.54	66.37	66.20	66.04	65.87	65.70	65.53	65.36	65.19	65.02

表 B.1

酒精计浓度/ (%vol)	温度/											
	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
65.8	69.09	68.93	68.77	68.61	68.44	68.28	68.12	67.96	67.79	67.63	67.46	67.30
65.9	69.19	69.03	68.87	68.70	68.54	68.38	68.22	68.05	67.89	67.73	67.56	67.40
66	69.29	69.13	68.96	68.80	68.64	68.48	68.32	68.15	67.99	67.82	67.66	67.50
66.1	69.38	69.22	69.06	68.90	68.74	68.58	68.41	68.25	68.09	67.92	67.76	67.60
66.2	69.48	69.32	69.16	69.00	68.84	68.67	68.51	68.35	68.19	68.02	67.86	67.69
66.3	69.58	69.42	69.26	69.10	68.93	68.77	68.61	68.45	68.28	68.12	67.96	67.79
66.4	69.68	69.52	69.36	69.19	69.03	68.87	68.71	68.55	68.38	68.22	68.06	67.89
66.5	69.78	69.61	69.45	69.29	69.13	68.97	68.81	68.64	68.48	68.32	68.15	67.99
66.6	69.87	69.71	69.55	69.39	69.23	69.07	68.91	68.74	68.58	68.42	68.25	68.09
66.7	69.97	69.81	69.65	69.49	69.33	69.17	69.00	68.84	68.68	68.52	68.35	68.19
66.8	70.07	69.91	69.75	69.59	69.43	69.26	69.10	68.94	68.78	68.61	68.45	68.29
66.9	70.17	70.01	69.85	69.68	69.52	69.36	69.20	69.04	68.88	68.71	68.55	68.39
67	70.26	70.10	69.94	69.78	69.62	69.46	69.30	69.14	68.97	68.81	68.65	68.49
67.1	70.36	70.20	70.04	69.88	69.72	69.56	69.40	69.24	69.07	68.91	68.75	68.58
67.2	70.46	70.30	70.14	69.98	69.82	69.66	69.70	69.53	69.17	69.01	68.85	68.68
67.3	70.56	70.40	70.24	70.08	69.92	69.76	69.59	69.43	69.27	69.11	68.95	68.78
67.4	70.65	70.49	70.33	70.17	70.01	69.85	69.69	69.53	69.37	69.21	69.04	68.88
67.5	70.75	70.59	70.43	70.27	70.11	69.95	69.79	69.63	69.47	69.31	69.14	68.98
67.6	70.85	70.69	70.53	70.37	70.21	70.05	69.89	69.73	69.57	69.40	69.24	69.08
67.7	70.95	70.79	70.63	70.47	70.31	70.15	69.99	69.83	69.66	69.50	69.34	69.18
67.8	71.04	70.89	70.73	70.57	70.41	70.25	70.09	69.92	69.76	69.60	69.44	69.28
67.9	71.14	70.98	70.82	70.66	70.50	70.34	70.18	70.02	69.86	69.70	69.54	69.38
68	71.24	71.08	70.92	70.76	70.60	70.44	70.28	70.12	69.96	69.80	69.64	69.47
68.1	71.34	71.18	71.02	70.86	70.70	70.54	70.38	70.22	70.06	69.90	69.74	69.57
68.2	71.43	71.28	71.12	70.96	70.80	70.64	70.48	70.32	70.16	70.00	69.83	69.67
68.3	71.53	71.37	71.22	71.06	70.90	70.74	70.58	70.42	70.26	70.09	69.93	69.77
68.4	71.63	71.47	71.31	71.15	70.99	70.84	70.68	70.52	70.35	70.19	70.03	69.87
68.5	71.73	71.57	71.41	71.25	71.09	70.93	70.77	70.61	70.45	70.29	70.13	69.97
68.6	71.83	71.67	71.51	71.35	71.19	71.03	70.87	70.71	70.55	70.39	70.23	70.07
68.7	71.92	71.76	71.61	71.45	71.29	71.13	70.97	70.81	70.65	70.49	70.33	70.17
68.8	72.02	71.86	71.70	71.55	71.39	71.23	71.07	70.91	70.75	70.59	70.43	70.27
68.9	72.12	71.96	71.80	71.64	71.49	71.33	71.17	71.01	70.85	70.69	70.53	70.37
69	72.22	72.06	71.90	71.74	71.58	71.42	71.27	71.11	70.95	70.79	70.62	70.46
69.1	72.31	72.16	72.00	71.84	71.68	71.52	71.36	71.20	71.04	70.88	70.72	70.56
69.2	72.41	72.25	72.10	71.94	71.78	71.62	71.46	71.30	71.14	70.98	70.82	70.66
69.3	72.51	72.35	72.19	72.04	71.88	71.72	71.56	71.40	71.24	71.08	70.92	70.76
69.4	72.61	72.45	72.29	72.13	71.98	71.82	71.66	71.50	71.34	71.18	71.02	70.86
69.5	72.70	72.55	72.39	72.23	72.07	71.92	71.76	71.60	71.44	71.28	71.12	70.96
69.6	72.80	72.64	72.49	72.33	72.17	72.01	71.85	71.70	71.54	71.38	71.22	71.06
69.7	72.90	72.74	72.58	72.43	72.27	72.11	71.95	71.79	71.64	71.48	71.32	71.16
69.8	73.00	72.84	72.68	72.53	72.37	72.21	72.05	71.89	71.73	71.57	71.42	71.26
69.9	73.09	72.94	72.78	72.62	72.47	72.31	72.15	71.99	71.83	71.67	71.51	71.35

(续)

单位为%vol

℃												
16	16.5	17	17.5	18	18.5	19	19.5	20	20.5	21	21.5	22
67.13	66.97	66.80	66.64	66.47	66.30	66.14	65.97	65.80	65.63	65.46	65.29	65.13
67.23	67.07	66.90	66.74	66.57	66.40	66.24	66.07	65.90	65.73	65.56	65.39	65.23
67.33	67.17	67.00	66.83	66.67	66.50	66.33	66.17	66.00	65.83	65.66	65.49	65.33
67.43	67.27	67.10	66.93	66.77	66.60	66.43	66.27	66.10	65.93	65.76	65.60	65.43
67.53	67.36	67.20	67.03	66.87	66.70	66.53	66.37	66.20	66.03	65.86	65.70	65.53
67.63	67.46	67.30	67.13	66.97	66.80	66.63	66.47	66.30	66.13	65.96	65.80	65.63
67.73	67.56	67.40	67.23	67.07	66.90	66.73	66.57	66.40	66.23	66.06	65.90	65.73
67.83	67.66	67.50	67.33	67.17	67.00	66.83	66.67	66.50	66.33	66.16	66.00	65.83
67.93	67.76	67.60	67.43	67.27	67.10	66.93	66.77	66.60	66.43	66.27	66.10	65.93
68.02	67.86	67.70	67.53	67.37	67.20	67.03	66.87	66.70	66.53	66.37	66.20	66.03
68.12	67.96	67.79	67.63	67.46	67.30	67.13	66.97	66.80	66.63	66.47	66.30	66.13
68.22	68.06	67.89	67.73	67.56	67.40	67.23	67.07	66.90	66.73	66.57	66.40	66.23
68.32	68.16	67.99	67.83	67.66	67.50	67.33	67.17	67.00	66.83	66.67	66.50	66.33
68.42	68.26	68.09	67.93	67.76	67.60	67.43	67.27	67.10	66.93	66.77	66.60	66.43
68.52	68.36	68.19	68.03	67.86	67.70	67.53	67.37	67.20	67.03	66.87	66.70	66.53
68.62	68.46	68.29	68.13	67.96	67.80	67.63	67.47	67.30	67.13	66.97	66.80	66.63
68.72	68.55	68.39	68.23	68.06	67.90	67.73	67.57	67.40	67.23	67.07	66.90	66.73
68.82	68.65	68.49	68.33	68.16	68.00	67.83	67.67	67.50	67.33	67.17	67.00	66.83
68.92	68.75	68.59	68.43	68.26	68.10	67.93	67.77	67.60	67.43	67.27	67.10	66.93
69.02	68.85	68.69	68.52	68.36	68.20	68.03	67.87	67.70	67.53	67.37	67.20	67.03
69.11	68.95	68.79	68.62	68.46	68.30	68.13	67.97	67.80	67.63	67.47	67.30	67.13
69.21	69.05	68.89	68.72	68.56	68.40	68.23	68.07	67.90	67.73	67.57	67.40	67.23
69.31	69.15	68.99	68.82	68.66	68.49	68.33	68.17	68.00	67.83	67.67	67.50	67.34
69.41	69.25	69.09	68.92	68.76	68.59	68.43	68.27	68.10	67.93	67.77	67.60	67.44
69.51	69.35	69.18	69.02	68.86	68.69	68.53	68.37	68.20	68.03	67.87	67.70	67.54
69.61	69.45	69.28	69.12	68.96	68.79	68.63	68.46	68.30	68.13	67.97	67.80	67.64
69.71	69.55	69.38	69.22	69.06	68.89	68.73	68.56	68.40	68.23	68.07	67.90	67.74
69.81	69.65	69.48	69.32	69.16	68.99	68.83	68.66	68.50	68.33	68.17	68.00	67.84
69.91	69.74	69.58	69.42	69.26	69.09	68.93	68.76	68.60	68.44	68.27	68.10	67.94
70.01	69.84	69.68	69.52	69.36	69.19	69.03	68.86	68.70	68.54	68.37	68.20	68.04
70.10	69.94	69.78	69.62	69.46	69.29	69.13	68.96	68.80	68.64	68.47	68.30	68.14
70.20	70.04	69.88	69.72	69.55	69.39	69.23	69.06	68.90	68.74	68.57	68.41	68.24
70.30	70.14	69.98	69.82	69.65	69.49	69.33	69.16	69.00	68.84	68.67	68.51	68.34
70.40	70.24	70.08	69.92	69.75	69.59	69.43	69.26	69.10	68.94	68.77	68.61	68.44
70.50	70.34	70.18	70.02	69.85	69.69	69.53	69.36	69.20	69.04	68.87	68.71	68.54
70.60	70.44	70.28	70.11	69.95	69.79	69.63	69.46	69.30	69.14	68.97	68.81	68.64
70.70	70.54	70.38	70.21	70.05	69.89	69.73	69.56	69.40	69.24	69.07	68.91	68.74
70.80	70.64	70.48	70.31	70.15	69.99	69.83	69.66	69.50	69.34	69.17	69.01	68.84
70.90	70.74	70.57	70.41	70.25	70.09	69.93	69.76	69.60	69.44	69.27	69.11	68.94
71.00	70.84	70.67	70.51	70.35	70.19	70.03	69.86	69.70	69.54	69.37	69.21	69.04
71.09	70.93	70.77	70.61	70.45	70.29	70.13	69.96	69.80	69.64	69.47	69.31	69.14
71.19	71.03	70.87	70.71	70.55	70.39	70.23	70.06	69.90	69.74	69.57	69.41	69.24

表 B.2 温度 20℃ 时酒精计浓度与温度换算表

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
18	17.29	17.14	17.00	16.86	16.71	16.57	16.42	16.28	16.13	15.99	15.84	15.69	15.55
18.1	17.38	17.24	17.09	16.95	16.81	16.66	16.51	16.37	16.22	16.08	15.93	15.78	15.64
18.2	17.48	17.34	17.19	17.04	16.90	16.75	16.61	16.46	16.32	16.17	16.02	15.87	15.73
18.3	17.58	17.43	17.29	17.14	16.99	16.85	16.70	16.55	16.41	16.26	16.11	15.96	15.82
18.4	17.67	17.53	17.38	17.23	17.09	16.94	16.79	16.65	16.50	16.35	16.20	16.06	15.91
18.5	17.77	17.62	17.48	17.33	17.18	17.03	16.89	16.74	16.59	16.44	16.29	16.15	16.00
18.6	17.87	17.72	17.57	17.42	17.28	17.13	16.98	16.83	16.68	16.53	16.39	16.24	16.09
18.7	17.96	17.82	17.67	17.52	17.37	17.22	17.07	16.92	16.78	16.63	16.48	16.33	16.18
18.8	18.06	17.91	17.76	17.61	17.46	17.32	17.17	17.02	16.87	16.72	16.57	16.42	16.27
18.9	18.16	18.01	17.86	17.71	17.56	17.41	17.26	17.11	16.96	16.81	16.66	16.51	16.36
19	18.25	18.10	17.95	17.80	17.65	17.50	17.35	17.20	17.05	16.90	16.75	16.60	16.45
19.1	18.35	18.20	18.05	17.90	17.75	17.60	17.45	17.29	17.14	16.99	16.84	16.69	16.54
19.2	18.45	18.30	18.14	17.99	17.84	17.69	17.54	17.39	17.24	17.08	16.93	16.78	16.63
19.3	18.54	18.39	18.24	18.09	17.94	17.78	17.63	17.48	17.33	17.18	17.02	16.87	16.72
19.4	18.64	18.49	18.34	18.18	18.03	17.88	17.73	17.57	17.42	17.27	17.11	16.96	16.81
19.5	18.74	18.58	18.43	18.28	18.13	17.97	17.82	17.67	17.52	17.36	17.20	17.05	16.90
19.6	18.83	18.68	18.53	18.37	18.22	18.07	17.91	17.76	17.60	17.45	17.30	17.14	16.99
19.7	18.93	18.78	18.62	18.48	18.31	18.16	18.01	17.85	17.70	17.54	17.39	17.23	17.08
19.8	19.03	18.87	18.72	18.56	18.41	18.25	18.10	17.94	17.79	17.63	17.48	17.32	17.17
19.9	19.12	18.97	18.81	18.66	18.50	18.35	18.19	18.04	17.88	17.73	17.57	17.41	17.26
20	19.22	19.06	18.91	18.75	18.60	18.44	18.29	18.13	17.97	17.82	17.66	17.50	17.35
20.1	19.32	19.16	19.00	18.85	18.69	18.53	18.38	18.22	18.07	17.91	17.75	17.60	17.44
20.2	19.41	19.26	19.10	18.94	18.79	18.63	18.47	18.31	18.16	18.00	17.84	17.69	17.53
20.3	19.51	19.35	19.20	19.04	18.88	18.72	18.57	18.41	18.25	18.09	17.93	17.78	17.62
20.4	19.61	19.45	19.29	19.13	18.97	18.82	18.66	18.50	18.34	18.18	18.03	17.87	17.71
20.5	19.70	19.55	19.39	19.23	19.07	18.91	18.75	18.59	18.43	18.28	18.12	17.96	17.80
20.6	19.80	19.64	19.48	19.32	19.16	19.00	18.85	18.69	18.53	18.37	18.21	18.05	17.89
20.7	19.90	19.74	19.58	19.42	19.26	19.10	18.94	18.78	18.62	18.46	18.30	18.14	17.98
20.8	20.00	19.83	19.67	19.51	19.35	19.19	19.03	18.87	18.71	18.55	18.39	18.23	18.07
20.9	20.09	19.93	19.77	19.61	19.45	19.29	19.13	18.97	18.80	18.64	18.48	18.32	18.16
21	20.19	20.03	19.87	19.70	19.54	19.38	19.22	19.06	18.90	18.74	18.57	18.41	18.25
21.1	20.29	20.12	19.96	19.80	19.64	19.47	19.31	19.15	18.99	18.83	18.67	18.50	18.34
21.2	20.38	20.22	20.06	19.89	19.73	19.57	19.41	19.24	19.08	18.92	18.76	18.60	18.43
21.3	20.48	20.32	20.15	19.99	19.83	19.66	19.50	19.34	19.17	19.01	18.85	18.69	18.52
21.4	20.58	20.41	20.25	20.08	19.92	19.76	19.59	19.43	19.27	19.10	18.94	18.78	18.61
21.5	20.67	20.51	20.34	20.18	20.02	19.85	19.69	19.52	19.36	19.20	19.03	18.87	18.71
21.6	20.77	20.61	20.44	20.28	20.11	19.95	19.78	19.62	19.45	19.29	19.12	18.96	18.80
21.7	20.87	20.70	20.54	20.37	20.21	20.04	19.87	19.71	19.55	19.38	19.22	19.05	18.89
21.8	20.96	20.80	20.63	20.47	20.30	20.13	19.97	19.80	19.64	19.47	19.31	19.14	18.98
21.9	21.06	20.89	20.73	20.56	20.39	20.23	20.06	19.90	19.73	19.56	19.40	19.23	19.07
22	21.16	20.99	20.82	20.66	20.49	20.32	20.16	19.99	19.82	19.66	19.49	19.33	19.16
22.1	21.26	21.09	20.92	20.75	20.58	20.42	20.25	20.08	19.92	19.75	19.58	19.42	19.25
22.2	21.35	21.18	21.02	20.85	20.68	20.51	20.34	20.18	20.01	19.84	19.68	19.51	19.34
22.3	21.45	21.28	21.11	20.94	20.77	20.61	20.44	20.27	20.10	19.93	19.77	19.60	19.43

(温度范围 22.5℃~35℃, 间隔 0.5℃)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
15.40	15.25	15.11	14.96	14.81	14.66	14.51	14.37	14.22	14.07	13.92	13.77	13.62
15.49	15.34	15.19	15.05	14.90	14.75	14.60	14.45	14.30	14.15	14.00	13.85	13.70
15.58	15.43	15.28	15.13	14.99	14.84	14.69	14.54	14.39	14.24	14.09	13.94	13.79
15.67	15.52	15.37	15.22	15.07	14.92	14.77	14.63	14.48	14.33	14.17	14.02	13.87
15.76	15.61	15.46	15.31	15.16	15.01	14.86	14.71	14.56	14.41	14.26	14.11	13.96
15.85	15.70	15.55	15.40	15.25	15.10	14.95	14.80	14.65	14.50	14.35	14.19	14.04
15.94	15.79	15.64	15.49	15.34	15.19	15.04	14.88	14.73	14.58	14.43	14.28	14.13
16.03	15.88	15.73	15.58	15.42	15.27	15.12	14.97	14.82	14.67	14.52	14.36	14.21
16.12	15.97	15.81	15.66	15.51	15.36	15.21	15.06	14.91	14.75	14.60	14.45	14.30
16.21	16.05	15.90	15.75	15.60	15.45	15.30	15.14	14.99	14.84	14.69	14.53	14.38
16.30	16.14	15.99	15.84	15.69	15.54	15.38	15.23	15.08	14.92	14.77	14.62	14.47
16.38	16.23	16.08	15.93	15.78	15.62	15.47	15.32	15.16	15.01	14.86	14.70	14.55
16.47	16.32	16.17	16.02	15.86	15.71	15.56	15.40	15.25	15.10	14.94	14.79	14.63
16.56	16.41	16.26	16.10	15.95	15.80	15.64	15.49	15.34	15.18	15.03	14.87	14.72
16.65	16.50	16.35	16.28	16.04	15.88	15.73	15.58	15.42	15.27	15.11	14.96	14.80
16.74	16.59	16.44	16.28	16.13	15.97	15.82	15.66	15.51	15.35	15.20	15.04	14.89
16.83	16.68	16.52	16.37	16.21	16.06	15.90	15.75	15.59	15.44	15.28	15.13	14.97
16.92	16.77	16.61	16.46	16.30	16.15	15.99	15.84	15.68	15.53	15.37	15.21	15.06
17.01	16.86	16.70	16.55	16.39	16.23	16.08	15.92	15.77	15.61	15.45	15.30	15.14
17.10	16.95	16.79	16.63	16.48	16.32	16.17	16.01	15.85	15.70	15.54	15.38	15.23
17.19	17.04	16.88	16.72	16.57	16.41	16.25	16.10	15.94	15.78	15.63	15.47	15.31
17.28	17.12	16.97	16.81	16.65	16.50	16.34	16.18	16.03	15.87	15.71	15.55	15.40
17.37	17.21	17.06	16.90	16.74	16.58	16.43	16.27	16.11	15.95	15.80	15.64	15.48
17.46	17.30	17.15	16.99	16.83	16.67	16.51	16.36	16.20	16.04	15.88	15.72	15.57
17.55	17.39	17.23	17.08	16.92	16.76	16.60	16.44	16.28	16.13	15.97	15.81	15.65
17.64	17.48	17.32	17.17	17.01	16.85	16.69	16.53	16.37	16.21	16.05	15.89	15.74
17.73	17.57	17.41	17.25	17.09	16.94	16.78	16.62	16.46	16.30	16.14	15.98	15.82
17.82	17.66	17.50	17.34	17.18	17.02	16.86	16.70	16.54	16.38	16.22	16.07	15.91
17.91	17.75	17.59	17.43	17.27	17.11	16.95	16.79	16.63	16.47	16.31	16.15	15.99
18.00	17.84	17.68	17.52	17.36	17.20	17.04	16.88	16.72	16.56	16.40	16.24	16.08
18.09	17.93	17.77	17.61	17.45	17.29	17.13	16.96	16.80	16.64	16.48	16.32	16.16
18.18	18.02	17.86	17.70	17.54	17.37	17.21	17.05	16.89	16.73	16.57	16.41	16.25
18.27	18.11	17.95	17.79	17.62	17.46	17.30	17.14	16.98	16.82	16.65	16.49	16.33
18.36	18.20	18.04	17.87	17.71	17.55	17.39	17.23	17.06	16.90	16.74	16.58	16.42
18.45	18.29	18.13	17.96	17.80	17.64	17.48	17.31	17.15	16.99	16.83	16.66	16.50
18.54	18.38	18.22	18.05	17.89	17.73	17.56	17.40	17.24	17.07	16.91	16.75	16.59
18.63	18.47	18.30	18.14	17.98	17.81	17.65	17.49	17.32	17.16	17.00	16.83	16.67
18.72	18.56	18.39	18.23	18.07	17.90	17.74	17.57	17.41	17.25	17.08	16.92	16.76
18.81	18.65	18.48	18.32	18.15	17.99	17.83	17.66	17.50	17.33	17.17	17.01	16.84
18.90	18.74	18.57	18.41	18.24	18.08	17.91	17.75	17.58	17.42	17.26	17.09	16.93
18.99	18.83	18.66	18.50	18.33	18.17	18.00	17.84	17.67	17.51	17.34	17.18	17.01
19.08	18.92	18.75	18.59	18.42	18.26	18.09	17.92	17.76	17.59	17.43	17.26	17.10
19.17	19.01	18.84	18.68	18.51	18.34	18.18	18.01	17.85	17.68	17.52	17.35	17.18
19.27	19.10	18.93	18.76	18.60	18.43	18.27	18.10	17.93	17.77	17.60	17.44	17.27

表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
22.4	21.55	21.38	21.21	21.04	20.87	20.70	20.53	20.36	20.20	20.03	19.86	19.69	19.52
22.5	21.64	21.47	21.30	21.13	20.96	20.80	20.63	20.46	20.29	20.12	19.95	19.78	19.61
22.6	21.74	21.57	21.40	21.23	21.06	20.89	20.72	20.55	20.38	20.21	20.04	19.87	19.71
22.7	21.84	21.67	21.50	21.33	21.15	20.98	20.81	20.64	20.47	20.30	20.14	19.97	19.80
22.8	21.94	21.76	21.59	21.42	21.25	21.08	20.91	20.74	20.57	20.40	20.23	20.06	19.89
22.9	22.03	21.86	21.69	21.52	21.35	21.17	21.00	20.83	20.66	20.49	20.32	20.15	19.98
23	22.13	21.96	21.78	21.61	21.44	21.27	21.10	20.93	20.75	20.58	20.41	20.24	20.07
23.1	22.23	22.05	21.88	21.71	21.54	21.36	21.19	21.02	20.85	20.68	20.50	20.33	20.16
23.2	22.33	22.15	21.98	21.80	21.63	21.46	21.29	21.11	20.94	20.77	20.60	20.43	20.25
23.3	22.42	22.25	22.07	21.90	21.73	21.55	21.38	21.21	21.03	20.86	20.69	20.52	20.35
23.4	22.52	22.34	22.17	22.00	21.82	21.65	21.47	21.30	21.13	20.95	20.78	20.61	20.44
23.5	22.62	22.44	22.27	22.09	21.92	21.74	21.57	21.39	21.22	21.05	20.87	20.70	20.53
23.6	22.71	22.54	22.36	22.19	22.01	21.84	21.66	21.49	21.31	21.14	20.97	20.79	20.62
23.7	22.81	22.64	22.46	22.28	22.11	21.93	21.76	21.58	21.41	21.23	21.06	20.89	20.71
23.8	22.91	22.73	22.56	22.38	22.20	22.03	21.85	21.68	21.50	21.33	21.15	20.98	20.80
23.9	23.01	22.83	22.65	22.48	22.30	22.12	21.95	21.77	21.60	21.42	21.25	21.07	20.90
24	23.10	22.93	22.75	22.57	22.39	22.22	22.04	21.87	21.69	21.51	21.34	21.16	20.99
24.1	23.20	23.02	22.85	22.67	22.49	22.31	22.14	21.96	21.78	21.61	21.43	21.26	21.08
24.2	23.30	23.12	22.94	22.76	22.59	22.41	22.23	22.05	21.88	21.70	21.52	21.35	21.17
24.3	23.40	23.22	23.04	22.86	22.68	22.50	22.33	22.15	21.97	21.79	21.62	21.44	21.26
24.4	23.49	23.31	23.14	22.96	22.78	22.60	22.42	22.24	22.06	21.89	21.71	21.53	21.36
24.5	23.59	23.41	23.23	23.05	22.87	22.69	22.52	22.34	22.16	21.98	21.80	21.63	21.45
24.6	23.69	23.51	23.33	23.15	22.97	22.79	22.61	22.43	22.25	22.07	21.90	21.72	21.54
24.7	23.79	23.61	23.43	23.24	23.06	22.88	22.71	22.53	22.35	22.17	21.99	21.81	21.63
24.8	23.89	23.70	23.52	23.34	23.16	22.98	22.80	22.62	22.44	22.26	22.08	21.90	21.73
24.9	23.98	23.80	23.62	23.44	23.26	23.08	22.90	22.72	22.54	22.36	22.18	22.00	21.82
25	24.08	23.90	23.72	23.53	23.35	23.17	22.99	22.81	22.63	22.45	22.27	22.09	21.91
25.1	24.18	24.00	23.81	23.63	23.45	23.27	23.09	22.90	22.72	22.54	22.36	22.18	22.00
25.2	24.28	24.09	23.91	23.73	23.54	23.36	23.18	23.00	22.82	22.64	22.46	22.28	22.10
25.3	24.37	24.19	24.01	23.82	23.64	23.46	23.28	23.09	22.91	22.73	22.55	22.37	22.19
25.4	24.47	24.29	24.10	23.92	23.74	23.55	23.37	23.19	23.01	22.83	22.64	22.46	22.28
25.5	24.57	24.39	24.20	24.02	23.83	23.65	23.47	23.28	23.10	22.92	22.74	22.56	22.38
25.6	24.67	24.48	24.30	24.11	23.93	23.75	23.56	23.38	23.20	23.01	22.83	22.65	22.47
25.7	24.77	24.58	24.39	24.21	24.03	23.84	23.66	23.47	23.29	23.11	22.93	22.74	22.56
25.8	24.86	24.68	24.49	24.31	24.12	23.94	23.75	23.57	23.39	23.20	23.02	22.84	22.66
25.9	24.96	24.78	24.59	24.40	24.22	24.03	23.85	23.66	23.48	23.30	23.11	22.93	22.75
26	25.06	24.87	24.69	24.50	24.31	24.13	23.94	23.76	23.58	23.39	23.21	23.03	22.84
26.1	25.16	24.97	24.78	24.60	24.41	24.23	24.04	23.86	23.67	23.49	23.30	23.12	22.94
26.2	25.26	25.07	24.88	24.69	24.51	24.32	24.14	23.95	23.77	23.58	23.40	23.21	23.03
26.3	25.35	25.17	24.98	24.79	24.60	24.42	24.23	24.05	23.86	23.68	23.49	23.31	23.12
26.4	25.45	25.26	25.08	24.89	24.70	24.51	24.33	24.14	23.96	23.77	23.59	23.40	23.22
26.5	25.55	25.36	25.17	24.98	24.80	24.61	24.42	24.24	24.05	23.87	23.68	23.49	23.31
26.6	25.65	25.46	25.27	25.08	24.89	24.71	24.52	24.33	24.15	23.96	23.77	23.59	23.40
26.7	25.75	25.56	25.37	25.18	24.99	24.80	24.62	24.43	24.24	24.06	23.87	23.68	23.50

(续)

单位为%vol

℃

29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
19.36	19.19	19.02	18.85	18.69	18.52	18.35	18.19	18.02	17.85	17.69	17.52	17.36
19.45	19.28	19.11	18.94	18.78	18.61	18.44	18.27	18.11	17.94	17.77	17.61	17.44
19.54	19.37	19.20	19.03	18.87	18.70	18.53	18.36	18.20	18.03	17.86	17.69	17.53
19.63	19.46	19.29	19.12	18.95	18.79	18.62	18.45	18.28	18.12	17.95	17.78	17.61
19.72	19.55	19.38	19.21	19.04	18.87	18.71	18.54	18.37	18.20	18.03	17.87	17.70
19.81	19.64	19.47	19.30	19.13	18.96	18.79	18.63	18.46	18.29	18.12	17.95	17.79
19.90	19.73	19.56	19.39	19.22	19.05	18.88	18.71	18.55	18.38	18.21	18.04	17.87
19.99	19.82	19.65	19.48	19.31	19.14	18.97	18.80	18.63	18.46	18.30	18.13	17.96
20.08	19.91	19.74	19.57	19.40	19.23	19.06	18.89	18.72	18.55	18.38	18.21	18.04
20.17	20.00	19.83	19.66	19.49	19.32	19.15	18.98	18.81	18.64	18.47	18.30	18.13
20.27	20.09	19.92	19.75	19.58	19.41	19.24	19.07	18.90	18.73	18.56	18.39	18.22
20.36	20.18	20.01	19.84	19.67	19.50	19.33	19.16	18.98	18.81	18.64	18.47	18.30
20.45	20.28	20.10	19.93	19.76	19.59	19.42	19.24	19.07	18.90	18.73	18.56	18.39
20.54	20.37	20.19	20.02	19.85	19.68	19.50	19.33	19.16	18.99	18.82	18.65	18.48
20.63	20.46	20.28	20.11	19.94	19.77	19.59	19.42	19.25	19.08	18.91	18.73	18.56
20.72	20.55	20.37	20.20	20.03	19.85	19.68	19.51	19.34	19.17	18.99	18.82	18.65
20.81	20.64	20.47	20.29	20.12	19.94	19.77	19.60	19.43	19.25	19.08	18.91	18.74
20.91	20.73	20.56	20.38	20.21	20.03	19.86	19.69	19.51	19.34	19.17	19.00	18.82
21.00	20.82	20.65	20.47	20.30	20.12	19.95	19.78	19.60	19.43	19.26	19.08	18.91
21.09	20.91	20.74	20.56	20.39	20.21	20.04	19.86	19.69	19.52	19.34	19.17	19.00
21.18	21.00	20.83	20.65	20.48	20.30	20.13	19.95	19.78	19.61	19.43	19.26	19.08
21.27	21.10	20.92	20.74	20.57	20.39	20.22	20.04	19.87	19.69	19.52	19.35	19.17
21.36	21.19	21.01	20.83	20.66	20.48	20.31	20.13	19.96	19.78	19.61	19.43	19.26
21.46	21.28	21.10	20.93	20.75	20.57	20.40	20.22	20.05	19.87	19.70	19.52	19.35
21.55	21.37	21.19	21.02	20.84	20.66	20.49	20.31	20.13	19.96	19.78	19.61	19.43
21.64	21.46	21.29	21.11	20.93	20.75	20.58	20.40	20.22	20.05	19.87	19.70	19.52
21.73	21.55	21.38	21.20	21.02	20.84	20.67	20.49	20.31	20.14	19.96	19.79	19.61
21.83	21.65	21.47	21.29	21.11	20.93	20.76	20.58	20.40	20.23	20.05	19.87	19.70
21.92	21.74	21.56	21.38	21.20	21.02	20.85	20.67	20.49	20.31	20.14	19.96	19.79
22.01	21.83	21.65	21.47	21.29	21.11	20.94	20.76	20.58	20.40	20.23	20.05	19.87
22.10	21.92	21.74	21.56	21.38	21.21	21.03	20.85	20.67	20.49	20.32	20.14	19.96
22.20	22.01	21.83	21.66	21.48	21.30	21.12	20.94	20.76	20.58	20.40	20.23	20.05
22.29	22.11	21.93	21.75	21.57	21.39	21.21	21.03	20.85	20.67	20.49	20.32	20.14
22.38	22.20	22.02	21.84	21.66	21.48	21.30	21.12	20.94	20.76	20.58	20.40	20.23
22.47	22.29	22.11	21.93	21.75	21.57	21.39	21.21	21.03	20.85	20.67	20.49	20.31
22.57	22.38	22.20	22.02	21.84	21.66	21.48	21.30	21.12	20.94	20.76	20.58	20.40
22.66	22.48	22.30	22.11	21.93	21.75	21.57	21.39	21.21	21.03	20.85	20.67	20.49
22.75	22.57	22.39	22.21	22.02	21.84	21.66	21.48	21.30	21.12	20.94	20.76	20.58
22.85	22.66	22.48	22.30	22.12	21.93	21.75	21.57	21.39	21.21	21.03	20.85	20.67
22.94	22.76	22.57	22.39	22.21	22.02	21.84	21.66	21.48	21.30	21.12	20.94	20.76
23.03	22.85	22.66	22.48	22.30	22.12	21.93	21.75	21.57	21.39	21.21	21.03	20.85
23.13	22.94	22.76	22.57	22.39	22.21	22.03	21.84	21.66	21.48	21.30	21.12	20.94
23.22	23.03	22.85	22.67	22.48	22.30	22.12	21.93	21.75	21.57	21.39	21.21	21.03
23.31	23.13	22.94	22.76	22.57	22.39	22.21	22.03	21.84	21.66	21.48	21.30	21.12



表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
26.8	25.84	25.65	25.47	25.28	25.09	24.90	24.71	24.52	24.34	24.15	23.96	23.78	23.59
26.9	25.94	25.75	25.56	25.37	25.18	25.00	24.81	24.62	24.43	24.25	24.06	23.87	23.69
27	26.04	25.85	25.66	25.47	25.28	25.09	24.90	24.72	24.53	24.34	24.15	23.97	23.78
27.1	26.14	25.95	25.76	25.57	25.38	25.19	25.00	24.81	24.62	24.44	24.25	24.06	23.87
27.2	26.24	26.05	25.86	25.67	25.48	25.29	25.10	24.91	24.72	24.53	24.34	24.16	23.97
27.3	26.34	26.14	25.95	25.76	25.57	25.38	25.19	25.00	24.81	24.63	24.44	24.25	24.06
27.4	26.43	26.24	26.05	25.86	25.67	25.48	25.29	25.10	24.91	24.72	24.53	24.34	24.16
27.5	26.53	26.34	26.15	25.96	25.77	25.58	25.39	25.20	25.01	24.82	24.63	24.44	24.25
27.6	26.63	26.44	26.25	26.05	25.86	25.67	25.48	25.29	25.10	24.91	24.72	24.53	24.35
27.7	26.73	26.54	26.34	26.15	25.96	25.77	25.58	25.39	25.20	25.01	24.82	24.63	24.44
27.8	26.83	26.63	26.44	26.25	26.06	25.87	25.68	25.48	25.29	25.10	24.91	24.72	24.54
27.9	26.93	26.73	26.54	26.35	26.16	25.96	25.77	25.58	25.39	25.20	25.01	24.82	24.63
28	27.03	26.83	26.64	26.45	26.25	26.06	25.87	25.68	25.49	25.30	25.10	24.91	24.72
28.1	27.12	26.93	26.74	26.54	26.35	26.16	25.97	25.77	25.58	25.39	25.20	25.01	24.82
28.2	27.22	27.03	26.83	26.64	26.45	26.25	26.06	25.87	25.68	25.49	25.30	25.11	24.91
28.3	27.32	27.13	26.93	26.74	26.54	26.35	26.16	25.97	25.77	25.58	25.39	25.20	25.01
28.4	27.42	27.22	27.03	26.84	26.64	26.45	26.26	26.06	25.87	25.68	25.49	25.30	25.10
28.5	27.52	27.32	27.13	26.93	26.74	26.55	26.35	26.16	25.97	25.78	25.58	25.39	25.20
28.6	27.62	27.42	27.23	27.03	26.84	26.64	26.45	26.26	26.06	25.87	25.68	25.49	25.30
28.7	27.72	27.52	27.32	27.13	26.94	26.74	26.55	26.35	26.16	25.97	25.77	25.58	25.39
28.8	27.81	27.62	27.42	27.23	27.03	26.84	26.64	26.45	26.26	26.06	25.87	25.68	25.49
28.9	27.91	27.72	27.52	27.33	27.13	26.94	26.74	26.55	26.35	26.16	25.97	25.77	25.58
29	28.01	27.82	27.62	27.42	27.23	27.03	26.84	26.64	26.45	26.26	26.06	25.87	25.68
29.1	28.11	27.91	27.72	27.52	27.33	27.13	26.94	26.74	26.55	26.35	26.16	25.97	25.77
29.2	28.21	28.01	27.82	27.62	27.42	27.23	27.03	26.84	26.64	26.45	26.26	26.06	25.87
29.3	28.31	28.11	27.91	27.72	27.52	27.33	27.13	26.94	26.74	26.55	26.35	26.16	25.96
29.4	28.41	28.21	28.01	27.82	27.62	27.42	27.23	27.03	26.84	26.64	26.45	26.25	26.06
29.5	28.51	28.31	28.11	27.91	27.72	27.52	27.33	27.13	26.93	26.74	26.55	26.35	26.16
29.6	28.61	28.41	28.21	28.01	27.82	27.62	27.42	27.23	27.03	26.84	26.64	26.45	26.25
29.7	28.70	28.51	28.31	28.11	27.91	27.72	27.52	27.32	27.13	26.93	26.74	26.54	26.35
29.8	28.80	28.60	28.41	28.21	28.01	27.82	27.62	27.42	27.23	27.03	26.84	26.64	26.45
29.9	28.90	28.70	28.51	28.31	28.11	27.91	27.72	27.52	27.32	27.13	26.93	26.74	26.54
30	29.00	28.80	28.60	28.41	28.21	28.01	27.81	27.62	27.42	27.22	27.03	26.83	26.64
30.1	29.10	28.90	28.70	28.50	28.31	28.11	27.91	27.71	27.52	27.32	27.13	26.93	26.73
30.2	29.20	29.00	28.80	28.60	28.41	28.21	28.01	27.81	27.62	27.42	27.22	27.03	26.83
30.3	29.30	29.10	28.90	28.70	28.50	28.31	28.11	27.91	27.71	27.52	27.32	27.12	26.93
30.4	29.40	29.20	29.00	28.80	28.60	28.40	28.21	28.01	27.81	27.61	27.42	27.22	27.02
30.5	29.50	29.30	29.10	28.90	28.70	28.50	28.30	28.11	27.91	27.71	27.51	27.32	27.12
30.6	29.60	29.40	29.20	29.00	28.80	28.60	28.40	28.20	28.01	27.81	27.61	27.41	27.22
30.7	29.70	29.50	29.30	29.10	28.90	28.70	28.50	28.30	28.10	27.91	27.71	27.51	27.31
30.8	29.79	29.59	29.39	29.19	29.00	28.80	28.60	28.40	28.20	28.00	27.81	27.61	27.41
30.9	29.89	29.69	29.49	29.29	29.09	28.90	28.70	28.50	28.30	28.10	27.90	27.71	27.51
31	29.99	29.79	29.59	29.39	29.19	28.99	28.79	28.60	28.40	28.20	28.00	27.80	27.61
31.1	30.09	29.89	29.69	29.49	29.29	29.09	28.89	28.69	28.50	28.30	28.10	27.90	27.70

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
23.41	23.22	23.04	22.85	22.67	22.48	22.30	22.12	21.93	21.75	21.57	21.39	21.20
23.50	23.31	23.13	22.94	22.76	22.58	22.39	22.21	22.02	21.84	21.66	21.48	21.29
23.59	23.41	23.22	23.04	22.85	22.67	22.48	22.30	22.12	21.93	21.75	21.57	21.38
23.69	23.50	23.32	23.13	22.94	22.76	22.57	22.39	22.21	22.02	21.84	21.66	21.47
23.78	23.59	23.41	23.22	23.04	22.85	22.67	22.48	22.30	22.11	21.93	21.75	21.56
23.88	23.69	23.50	23.32	23.13	22.94	22.76	22.57	22.39	22.20	22.02	21.84	21.65
23.97	23.78	23.59	23.41	23.22	23.04	22.85	22.67	22.48	22.30	22.11	21.93	21.74
24.06	23.88	23.69	23.50	23.31	23.13	22.94	22.76	22.57	22.39	22.20	22.02	21.83
24.16	23.97	23.78	23.59	23.41	23.22	23.03	22.85	22.66	22.48	22.29	22.11	21.92
24.25	24.06	23.88	23.69	23.50	23.31	23.13	22.94	22.76	22.57	22.38	22.20	22.01
24.35	24.16	23.97	23.78	23.59	23.41	23.22	23.03	22.85	22.66	22.48	22.29	22.11
24.44	24.25	24.06	23.88	23.69	23.50	23.31	23.13	22.94	22.75	22.57	22.38	22.20
24.54	24.35	24.16	23.97	23.78	23.59	23.40	23.22	23.03	22.84	22.66	22.47	22.29
24.63	24.44	24.25	24.06	23.87	23.69	23.50	23.31	23.12	22.94	22.75	22.56	22.38
24.72	24.53	24.35	24.16	23.97	23.78	23.59	23.40	23.22	23.03	22.84	22.65	22.47
24.82	24.63	24.44	24.25	24.06	23.87	23.68	23.50	23.31	23.12	22.93	22.75	22.56
24.91	24.72	24.53	24.34	24.15	23.97	23.78	23.59	23.40	23.21	23.02	22.84	22.65
25.01	24.82	24.63	24.44	24.25	24.06	23.87	23.68	23.49	23.30	23.12	22.93	22.74
25.10	24.91	24.72	24.53	24.34	24.15	23.96	23.77	23.59	23.40	23.21	23.02	22.83
25.20	25.01	24.82	24.63	24.44	24.25	24.06	23.87	23.68	23.49	23.30	23.11	22.93
25.29	25.10	24.91	24.72	24.53	24.34	24.15	23.96	23.77	23.58	23.39	23.20	23.02
25.39	25.20	25.01	24.82	24.62	24.43	24.24	24.05	23.86	23.67	23.49	23.30	23.11
25.48	25.29	25.10	24.91	24.72	24.53	24.34	24.15	23.96	23.77	23.58	23.39	23.20
25.58	25.39	25.20	25.00	24.81	24.62	24.43	24.24	24.05	23.86	23.67	23.48	23.29
25.68	25.48	25.29	25.10	24.91	24.72	24.52	24.33	24.14	23.95	23.76	23.57	23.38
25.77	25.58	25.39	25.19	25.00	24.81	24.62	24.43	24.24	24.05	23.86	23.67	23.48
25.87	25.67	25.48	25.29	25.10	24.90	24.71	24.52	24.33	24.14	23.95	23.76	23.57
25.96	25.77	25.58	25.38	25.19	25.00	24.81	24.62	24.42	24.23	24.04	23.85	23.66
26.06	25.87	25.67	25.48	25.29	25.09	24.90	24.71	24.52	24.33	24.14	23.94	23.75
26.15	25.96	25.77	25.57	25.38	25.19	25.00	24.80	24.61	24.42	24.23	24.04	23.85
26.25	26.06	25.86	25.67	25.48	25.28	25.09	24.90	24.71	24.51	24.32	24.13	23.94
26.35	26.15	25.96	25.76	25.57	25.38	25.18	24.99	24.80	24.61	24.42	24.22	24.03
26.44	26.25	26.05	25.86	25.67	25.47	25.28	25.09	24.89	24.70	24.51	24.32	24.13
26.54	26.34	26.15	25.96	25.76	25.57	25.37	25.18	24.99	24.80	24.60	24.41	24.22
26.64	26.44	26.25	26.05	25.86	25.66	25.47	25.28	25.08	24.89	24.70	24.50	24.31
26.73	26.54	26.34	26.15	25.95	25.76	25.56	25.37	25.18	24.98	24.79	24.60	24.41
26.83	26.63	26.44	26.24	26.05	25.85	25.66	25.46	25.27	25.08	24.88	24.69	24.50
26.92	26.73	26.53	26.34	26.14	25.95	25.75	25.56	25.37	25.17	24.98	24.79	24.59
27.02	26.83	26.63	26.43	26.24	26.04	25.85	25.65	25.46	25.27	25.07	24.88	24.69
27.12	26.92	26.73	26.53	26.33	26.14	25.94	25.75	25.56	25.36	25.17	24.97	24.78
27.21	27.02	26.82	26.63	26.43	26.23	26.04	25.84	25.65	25.46	25.26	25.07	24.87
27.31	27.11	26.92	26.72	26.53	26.33	26.14	25.94	25.75	25.55	25.36	25.16	24.97
27.41	27.21	27.01	26.82	26.62	26.43	26.23	26.04	25.84	25.65	25.45	25.26	25.06
27.51	27.31	27.11	26.91	26.72	26.52	26.33	26.13	25.94	25.74	25.55	25.35	25.16

表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
31.2	30.19	29.99	29.79	29.59	29.39	29.19	28.99	28.79	28.59	28.39	28.20	28.00	27.80
31.3	30.29	30.09	29.89	29.69	29.49	29.29	29.09	28.89	28.69	28.49	28.29	28.10	27.90
31.4	30.39	30.19	29.99	29.79	29.59	29.39	29.19	28.99	28.79	28.59	28.39	28.19	27.99
31.5	30.49	30.29	30.09	29.89	29.69	29.49	29.29	29.09	28.89	28.69	28.49	28.29	28.09
31.6	30.59	30.39	30.19	29.99	29.79	29.59	29.39	29.19	28.99	28.79	28.59	28.39	28.19
31.7	30.69	30.49	30.29	30.09	29.88	29.68	29.48	29.28	29.08	28.88	28.69	28.49	28.29
31.8	30.79	30.59	30.39	30.18	29.98	29.78	29.58	29.38	29.18	28.98	28.78	28.58	28.39
31.9	30.89	30.69	30.48	30.28	30.08	29.88	29.68	29.48	29.28	29.08	28.88	28.68	28.48
32	30.99	30.79	30.58	30.38	30.18	29.98	29.78	29.58	29.38	29.18	28.98	28.78	28.58
32.1	31.09	30.88	30.68	30.48	30.28	30.08	29.88	29.68	29.48	29.28	29.08	28.88	28.68
32.2	31.19	30.98	30.78	30.58	30.38	30.18	29.98	29.78	29.58	29.38	29.18	28.98	28.78
32.3	31.29	31.08	30.88	30.68	30.48	30.28	30.08	29.88	29.67	29.47	29.27	29.07	28.87
32.4	31.39	31.18	30.98	30.78	30.58	30.38	30.18	29.97	29.77	29.57	29.37	29.17	28.97
32.5	31.48	31.28	31.08	30.88	30.68	30.48	30.27	30.07	29.87	29.67	29.47	29.27	29.07
32.6	31.58	31.38	31.18	30.98	30.78	30.57	30.37	30.17	29.97	29.77	29.57	29.37	29.17
32.7	31.68	31.48	31.28	31.08	30.88	30.67	30.47	30.27	30.07	29.87	29.67	29.47	29.27
32.8	31.78	31.58	31.38	31.18	30.97	30.77	30.57	30.37	30.17	29.97	29.77	29.57	29.37
32.9	31.88	31.68	31.48	31.28	31.07	30.87	30.67	30.47	30.27	30.07	29.87	29.66	29.46
33	31.98	31.78	31.58	31.38	31.17	30.97	30.77	30.57	30.37	30.17	29.96	29.76	29.56
33.1	32.08	31.88	31.68	31.48	31.27	31.07	30.87	30.67	30.47	30.26	30.06	29.86	29.66
33.2	32.18	31.98	31.78	31.57	31.37	31.17	30.97	30.77	30.56	30.36	30.16	29.96	29.76
33.3	32.28	32.08	31.88	31.67	31.47	31.27	31.07	30.87	30.66	30.46	30.26	30.06	29.86
33.4	32.38	32.18	31.98	31.77	31.57	31.37	31.17	30.96	30.76	30.56	30.36	30.16	29.96
33.5	32.48	32.28	32.08	31.87	31.67	31.47	31.27	31.06	30.86	30.66	30.46	30.26	30.06
33.6	32.58	32.38	32.18	31.97	31.77	31.57	31.37	31.16	30.96	30.76	30.56	30.36	30.16
33.7	32.68	32.48	32.28	32.07	31.87	31.67	31.47	31.26	31.06	30.86	30.66	30.46	30.25
33.8	32.78	32.58	32.38	32.17	31.97	31.77	31.56	31.36	31.16	30.96	30.76	30.55	30.35
33.9	32.88	32.68	32.47	32.27	32.07	31.87	31.66	31.46	31.26	31.06	30.86	30.65	30.45
34	32.98	32.78	32.57	32.37	32.17	31.97	31.76	31.56	31.36	31.16	30.95	30.75	30.55
34.1	33.08	32.88	32.67	32.47	32.27	32.07	31.86	31.66	31.46	31.26	31.05	30.85	30.65
34.2	33.18	32.98	32.77	32.57	32.37	32.17	31.96	31.76	31.56	31.36	31.15	30.95	30.75
34.3	33.28	33.08	32.87	32.67	32.47	32.27	32.06	31.86	31.66	31.46	31.25	31.05	30.85
34.4	33.38	33.18	32.97	32.77	32.57	32.37	32.16	31.96	31.76	31.55	31.35	31.15	30.95
34.5	33.48	33.28	33.07	32.87	32.67	32.46	32.26	32.06	31.86	31.65	31.45	31.25	31.05
34.6	33.58	33.38	33.17	32.97	32.77	32.56	32.36	32.16	31.96	31.75	31.55	31.35	31.15
34.7	33.68	33.48	33.27	33.07	32.87	32.66	32.46	32.26	32.06	31.85	31.65	31.45	31.25
34.8	33.78	33.58	33.37	33.17	32.97	32.76	32.56	32.36	32.16	31.95	31.75	31.55	31.35
34.9	33.88	33.68	33.47	33.27	33.07	32.86	32.66	32.46	32.26	32.05	31.85	31.65	31.45
35	33.98	33.78	33.57	33.37	33.17	32.96	32.76	32.56	32.36	32.15	31.95	31.75	31.55
35.1	34.08	33.88	33.67	33.47	33.27	33.06	32.86	32.66	32.46	32.25	32.05	31.85	31.64
35.2	34.18	33.98	33.77	33.57	33.37	33.16	32.96	32.76	32.56	32.35	32.15	31.95	31.74
35.3	34.28	34.08	33.87	33.67	33.47	33.26	33.06	32.86	32.66	32.45	32.25	32.05	31.84
35.4	34.38	34.18	33.97	33.77	33.57	33.36	33.16	32.96	32.76	32.55	32.35	32.15	31.94
35.5	34.48	34.28	34.07	33.87	33.67	33.46	33.26	33.06	32.86	32.65	32.45	32.25	32.04

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
27.60	27.41	27.21	27.01	26.81	26.62	26.42	26.23	26.03	25.84	25.64	25.45	25.25
27.70	27.50	27.30	27.11	26.91	26.71	26.52	26.32	26.13	25.93	25.74	25.54	25.35
27.80	27.60	27.40	27.20	27.01	26.81	26.61	26.42	26.22	26.03	25.83	25.64	25.44
27.89	27.70	27.50	27.30	27.10	26.91	26.71	26.51	26.32	26.12	25.93	25.73	25.54
27.99	27.79	27.60	27.40	27.20	27.00	26.81	26.61	26.41	26.22	26.02	25.83	25.63
28.09	27.89	27.69	27.49	27.30	27.10	26.90	26.71	26.51	26.31	26.12	25.92	25.73
28.19	27.99	27.79	27.59	27.39	27.20	27.00	26.80	26.61	26.41	26.21	26.02	25.82
28.28	28.09	27.89	27.69	27.49	27.29	27.10	26.90	26.70	26.50	26.31	26.11	25.92
28.38	28.18	27.98	27.79	27.59	27.39	27.19	26.99	26.80	26.60	26.40	26.21	26.01
28.48	28.28	28.08	27.88	27.68	27.49	27.29	27.09	26.89	26.70	26.50	26.30	26.11
28.58	28.38	28.18	27.98	27.78	27.58	27.39	27.19	26.99	26.79	26.60	26.40	26.20
28.68	28.48	28.28	28.08	27.88	27.68	27.48	27.28	27.09	26.89	26.69	26.50	26.30
28.77	28.57	28.37	28.18	27.98	27.78	27.58	27.38	27.18	26.99	26.79	26.59	26.39
28.87	28.67	28.47	28.27	28.07	27.88	27.68	27.48	27.28	27.08	26.88	26.69	26.49
28.97	28.77	28.57	28.37	28.17	27.97	27.77	27.58	27.38	27.18	26.98	26.78	26.59
29.07	28.87	28.67	28.47	28.27	28.07	27.87	27.67	27.47	27.28	27.08	26.88	26.68
29.17	28.97	28.77	28.57	28.37	28.17	27.97	27.77	27.57	27.37	27.17	26.98	26.78
29.26	29.06	28.86	28.66	28.46	28.26	28.07	27.87	27.67	27.47	27.27	27.07	26.87
29.36	29.16	28.96	28.76	28.56	28.36	28.16	27.96	27.77	27.57	27.37	27.17	26.97
29.46	29.26	29.06	28.86	28.66	28.46	28.26	28.06	27.86	27.66	27.46	27.27	27.07
29.56	29.36	29.16	28.96	28.76	28.56	28.36	28.16	27.96	27.76	27.56	27.36	27.16
29.66	29.46	29.26	29.06	28.86	28.66	28.46	28.26	28.06	27.86	27.66	27.46	27.26
29.76	29.56	29.35	29.15	28.95	28.75	28.55	28.35	28.15	27.96	27.76	27.56	27.36
29.86	29.65	29.45	29.25	29.05	28.85	28.65	28.45	28.25	28.05	27.85	27.65	27.46
29.95	29.75	29.55	29.35	29.15	28.95	28.75	28.55	28.35	28.15	27.95	27.75	27.55
30.05	29.85	29.65	29.45	29.25	29.05	28.85	28.65	28.45	28.25	28.05	27.85	27.65
30.15	29.95	29.75	29.55	29.35	29.15	28.95	28.75	28.55	28.35	28.15	27.95	27.75
30.25	30.05	29.85	29.65	29.45	29.24	29.04	28.84	28.64	28.44	28.24	28.04	27.84
30.35	30.15	29.95	29.75	29.54	29.34	29.14	28.94	28.74	28.54	28.34	28.14	27.94
30.45	30.25	30.05	29.84	29.64	29.44	29.24	29.04	28.84	28.64	28.44	28.24	28.04
30.55	30.35	30.14	29.94	29.74	29.54	29.34	29.14	28.94	28.74	28.54	28.34	28.14
30.65	30.44	30.24	30.04	29.84	29.64	29.44	29.24	29.04	28.84	28.64	28.43	28.23
30.75	30.54	30.34	30.14	29.94	29.74	29.54	29.34	29.13	28.93	28.73	28.53	28.33
30.85	30.64	30.44	30.24	30.04	29.84	29.64	29.43	29.23	29.03	28.83	28.63	28.43
30.94	30.74	30.54	30.34	30.14	29.94	29.73	29.53	29.33	29.13	28.93	28.73	28.53
31.04	30.84	30.64	30.44	30.24	30.03	29.83	29.63	29.43	29.23	29.03	28.83	28.63
31.14	30.94	30.74	30.54	30.34	30.13	29.93	29.73	29.53	29.33	29.13	28.93	28.73
31.24	31.04	30.84	30.64	30.43	30.23	30.03	29.83	29.63	29.43	29.23	29.02	28.82
31.34	31.14	30.94	30.74	30.53	30.33	30.13	29.93	29.73	29.53	29.32	29.12	28.92
31.44	31.24	31.04	30.84	30.63	30.43	30.23	30.03	29.83	29.62	29.42	29.22	29.02
31.54	31.34	31.14	30.93	30.73	30.53	30.33	30.13	29.93	29.72	29.52	29.32	29.12
31.64	31.44	31.24	31.03	30.83	30.63	30.43	30.23	30.02	29.82	29.62	29.42	29.22
31.74	31.54	31.34	31.13	30.93	30.73	30.53	30.33	30.12	29.92	29.72	29.52	29.32
31.84	31.64	31.44	31.23	31.03	30.83	30.63	30.42	30.22	30.02	29.82	29.62	29.42

表 B.2

酒精计浓度/ (% vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
35.6	34.58	34.38	34.17	33.97	33.77	33.56	33.36	33.16	32.96	32.75	32.55	32.35	32.14
35.7	34.68	34.48	34.27	34.07	33.87	33.66	33.46	33.26	33.06	32.85	32.65	32.45	32.24
35.8	34.78	34.58	34.37	34.17	33.97	33.76	33.56	33.36	33.16	32.96	32.75	32.55	32.34
35.9	34.88	34.68	34.48	34.27	34.07	33.87	33.66	33.46	33.26	33.05	32.85	32.65	32.44
36	34.98	34.78	34.58	34.37	34.17	33.97	33.76	33.56	33.36	33.15	32.95	32.75	32.54
36.1	35.08	34.88	34.68	34.47	34.27	34.07	33.86	33.65	33.46	33.25	33.05	32.85	32.64
36.2	35.18	34.98	34.78	34.57	34.37	34.17	33.96	33.76	33.56	33.35	33.15	32.95	32.74
36.3	35.28	35.08	34.88	34.67	34.47	34.27	34.06	33.86	33.66	33.45	33.25	33.05	32.84
36.4	35.38	35.18	34.98	34.77	34.57	34.37	34.16	33.96	33.76	33.55	33.35	33.15	32.95
36.5	35.48	35.28	35.08	34.87	34.67	34.47	34.26	34.06	33.86	33.65	33.45	33.25	33.05
36.6	35.58	35.38	35.18	34.97	34.77	34.57	34.36	34.16	33.96	33.76	33.55	33.35	33.15
36.7	35.68	35.48	35.28	35.07	34.87	34.67	34.46	34.26	34.06	33.86	33.65	33.45	33.25
36.8	35.78	35.58	35.38	35.17	34.97	34.77	34.57	34.36	34.16	33.96	33.75	33.55	33.35
36.9	35.88	35.68	35.48	35.27	35.07	34.87	34.67	34.46	34.26	34.06	33.85	33.65	33.45
37	35.98	35.78	35.58	35.38	35.17	34.97	34.77	34.56	34.36	34.16	33.95	33.75	33.55
37.1	36.08	35.88	35.68	35.48	35.27	35.07	34.87	34.66	34.46	34.26	34.05	33.85	33.65
37.2	36.19	35.98	35.78	35.58	35.37	35.17	34.97	34.76	34.56	34.36	34.16	33.95	33.75
37.3	36.29	36.08	35.88	35.68	35.47	35.27	35.07	34.86	34.66	34.46	34.26	34.05	33.85
37.4	36.39	36.18	35.98	35.78	35.57	35.37	35.17	34.97	34.76	34.56	34.36	34.15	33.95
37.5	36.49	36.28	36.08	35.88	35.67	35.47	35.27	35.07	34.86	34.66	34.46	34.25	34.05
37.6	36.59	36.38	36.18	35.98	35.78	35.57	35.37	35.17	34.96	34.76	34.56	34.36	34.15
37.7	36.69	36.48	36.28	36.08	35.88	35.67	35.47	35.27	35.06	34.86	34.66	34.46	34.25
37.8	36.79	36.58	36.38	36.18	35.98	35.77	35.57	35.37	35.17	34.96	34.76	34.56	34.35
37.9	36.89	36.69	36.48	36.28	36.08	35.87	35.67	35.47	35.27	35.06	34.86	34.66	34.45
38	36.99	36.79	36.58	36.38	36.18	35.98	35.77	35.57	35.37	35.16	34.96	34.76	34.56
38.1	37.09	36.89	36.68	36.48	36.28	36.08	35.87	35.67	35.47	35.27	35.06	34.86	34.66
38.2	37.19	36.99	36.78	36.58	36.38	36.18	35.97	35.77	35.57	35.37	35.16	34.96	34.76
38.3	37.29	37.09	36.88	36.68	36.48	36.28	36.07	35.87	35.67	35.47	35.26	35.06	34.86
38.4	37.39	37.19	36.99	36.78	36.58	36.38	36.18	35.97	35.77	35.57	35.37	35.16	34.96
38.5	37.49	37.29	37.09	36.88	36.68	36.48	36.28	36.07	35.87	35.67	35.47	35.26	35.06
38.6	37.59	37.39	37.19	36.98	36.78	36.58	36.38	36.17	35.97	35.77	35.57	35.36	35.16
38.7	37.69	37.49	37.29	37.08	36.88	36.68	36.48	36.28	36.07	35.87	35.67	35.47	35.26
38.8	37.79	37.59	37.39	37.19	36.98	36.78	36.58	36.38	36.17	35.97	35.77	35.57	35.36
38.9	37.89	37.69	37.49	37.29	37.08	36.88	36.68	36.48	36.28	36.07	35.87	35.67	35.47
39	37.99	37.79	37.59	37.39	37.19	36.98	36.78	36.58	36.38	36.17	35.97	35.77	35.57
39.1	38.09	37.89	37.69	37.49	37.29	37.08	36.88	36.68	36.48	36.28	36.07	35.87	35.67
39.2	38.19	37.99	37.79	37.59	37.39	37.18	36.98	36.78	36.58	36.38	36.17	35.97	35.77
39.3	38.29	38.09	37.89	37.69	37.49	37.29	37.08	36.88	36.68	36.48	36.28	36.07	35.87
39.4	38.39	38.19	37.99	37.79	37.59	37.39	37.18	36.98	36.78	36.58	36.38	36.17	35.97
39.5	38.49	38.29	38.09	37.89	37.69	37.49	37.29	37.08	36.88	36.68	36.48	36.28	36.07
39.6	38.60	38.39	38.19	37.99	37.79	37.59	37.39	37.19	36.98	36.78	36.58	36.38	36.18
39.7	38.70	38.49	38.29	38.09	37.89	37.69	37.49	37.29	37.08	36.88	36.68	36.48	36.28
39.8	38.80	38.60	38.39	38.19	37.99	37.79	37.59	37.39	37.19	36.98	36.78	36.58	36.38
39.9	38.90	38.70	38.50	38.29	38.09	37.89	37.69	37.49	37.29	37.09	36.88	36.68	36.48

(续)

单位为%vol

℃

29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
31.94	31.74	31.54	31.33	31.13	30.93	30.73	30.52	30.32	30.12	29.92	29.72	29.51
32.04	31.84	31.64	31.43	31.23	31.03	30.83	30.62	30.42	30.22	30.02	29.82	29.61
32.14	31.94	31.74	31.53	31.33	31.13	30.93	30.72	30.52	30.32	30.12	29.91	29.71
32.24	32.04	31.84	31.63	31.43	31.23	31.03	30.82	30.62	30.42	30.22	30.01	29.81
32.34	32.14	31.94	31.73	31.53	31.33	31.13	30.92	30.72	30.52	30.32	30.11	29.91
32.44	32.24	32.04	31.83	31.63	31.43	31.23	31.02	30.82	30.62	30.42	30.21	30.01
32.54	32.34	32.14	31.93	31.73	31.53	31.33	31.12	30.92	30.72	30.52	30.31	30.11
32.64	32.44	32.24	32.03	31.83	31.63	31.43	31.22	31.02	30.82	30.62	30.41	30.21
32.74	32.54	32.34	32.13	31.93	31.73	31.53	31.32	31.12	30.92	30.71	30.51	30.31
32.84	32.64	32.44	32.23	32.03	31.83	31.63	31.42	31.22	31.02	30.81	30.61	30.41
32.94	32.74	32.54	32.33	32.13	31.93	31.73	31.52	31.32	31.12	30.91	30.71	30.51
33.04	32.84	32.64	32.43	32.23	32.03	31.83	31.62	31.42	31.22	31.01	30.81	30.61
33.14	32.94	32.74	32.54	32.33	32.13	31.93	31.72	31.52	31.32	31.12	30.91	30.71
33.24	33.04	32.84	32.64	32.43	32.23	32.03	31.82	31.62	31.42	31.22	31.01	30.81
33.34	33.14	32.94	32.74	32.53	32.33	32.13	31.92	31.72	31.52	31.32	31.11	30.91
33.45	33.24	33.04	32.84	32.63	32.43	32.23	32.02	31.82	31.62	31.42	31.21	31.01
33.55	33.34	33.14	32.94	32.73	32.53	32.33	32.13	31.92	31.72	31.52	31.31	31.11
33.65	33.44	33.24	33.04	32.83	32.63	32.43	32.23	32.02	31.82	31.62	31.41	31.21
33.75	33.54	33.34	33.14	32.94	32.73	32.53	32.33	32.12	31.92	31.72	31.51	31.31
33.85	33.65	33.44	33.24	33.04	32.83	32.63	32.43	32.22	32.02	31.82	31.62	31.41
33.95	33.75	33.54	33.34	33.14	32.93	32.73	32.53	32.32	32.12	31.92	31.72	31.51
34.05	33.85	33.64	33.44	33.24	33.04	32.83	32.63	32.43	32.22	32.02	31.82	31.61
34.15	33.95	33.75	33.54	33.34	33.14	32.93	32.73	32.53	32.32	32.12	31.92	31.71
34.25	34.05	33.85	33.64	33.44	33.24	33.03	32.83	32.63	32.42	32.22	32.02	31.81
34.35	34.15	33.95	33.74	33.54	33.34	33.13	32.93	32.73	32.53	32.32	32.12	31.92
34.45	34.25	34.05	33.85	33.64	33.44	33.24	33.03	32.83	32.63	32.42	32.22	32.02
34.55	34.35	34.15	33.95	33.74	33.54	33.34	33.13	32.93	32.73	32.52	32.32	32.12
34.66	34.45	34.25	34.05	33.84	33.64	33.44	33.24	33.03	32.83	32.63	32.42	32.22
34.76	34.55	34.35	34.15	33.95	33.74	33.54	33.34	33.13	32.93	32.73	32.52	32.32
34.86	34.66	34.45	34.25	34.05	33.84	33.64	33.44	33.23	33.03	32.83	32.62	32.42
34.96	34.76	34.55	34.35	34.15	33.95	33.74	33.54	33.34	33.13	32.93	32.73	32.52
35.06	34.86	34.66	34.45	34.25	34.05	33.84	33.64	33.44	33.23	33.03	32.83	32.62
35.16	34.96	34.76	34.55	34.35	34.15	33.94	33.74	33.54	33.34	33.13	32.93	32.73
35.26	35.06	34.86	34.66	34.45	34.25	34.05	33.84	33.64	33.44	33.23	33.03	32.83
35.36	35.16	34.96	34.76	34.55	34.35	34.15	33.94	33.74	33.54	33.34	33.13	32.93
35.47	35.26	35.06	34.86	34.66	34.45	34.25	34.05	33.84	33.64	33.44	33.23	33.03
35.57	35.36	35.16	34.96	34.76	34.55	34.35	34.15	33.94	33.74	33.54	33.34	33.13
35.67	35.47	35.26	35.06	34.86	34.66	34.45	34.25	34.05	33.84	33.64	33.44	33.23
35.77	35.57	35.37	35.16	34.96	34.76	34.55	34.35	34.15	33.95	33.74	33.54	33.34
35.87	35.67	35.47	35.26	35.06	34.86	34.66	34.45	34.25	34.05	33.84	33.64	33.44
35.97	35.77	35.57	35.37	35.16	34.96	34.76	34.55	34.35	34.15	33.95	33.74	33.54
36.07	35.87	35.67	35.47	35.26	35.06	34.86	34.66	34.45	34.25	34.05	33.84	33.64
36.18	35.97	35.77	35.57	35.37	35.16	34.96	34.76	34.56	34.35	34.15	33.95	33.74
36.28	36.08	35.87	35.67	35.47	35.27	35.06	34.86	34.66	34.45	34.25	34.05	33.85

表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
40	39.00	38.80	38.60	38.39	38.19	37.99	37.79	37.59	37.39	37.19	36.98	36.78	36.58
40.1	39.10	38.90	38.70	38.50	38.29	38.09	37.89	37.69	37.49	37.29	37.09	36.88	36.68
40.2	39.20	39.00	38.80	38.60	38.40	38.19	37.99	37.79	37.59	37.39	37.19	36.99	36.78
40.3	39.30	39.10	38.90	38.70	38.50	38.30	38.09	37.89	37.69	37.49	37.29	37.09	36.89
40.4	39.40	39.20	39.00	38.80	38.60	38.40	38.20	37.99	37.79	37.59	37.39	37.19	36.99
40.5	39.50	39.30	39.10	38.90	38.70	38.50	38.30	38.10	37.89	37.69	37.49	37.29	37.09
40.6	39.60	39.40	39.20	39.00	38.80	38.60	38.40	38.20	38.00	37.80	37.59	37.39	37.19
40.7	39.70	39.50	39.30	39.10	38.90	38.70	38.50	38.30	38.10	37.90	37.70	37.49	37.29
40.8	39.80	39.60	39.40	39.20	39.00	38.80	38.60	38.40	38.20	38.00	37.80	37.60	37.39
40.9	39.90	39.70	39.50	39.30	39.10	38.90	38.70	38.50	38.30	38.10	37.90	37.70	37.50
41	40.00	39.80	39.60	39.40	39.20	39.00	38.80	38.60	38.40	38.20	38.00	37.80	37.60
41.1	40.10	39.90	39.70	39.50	39.30	39.10	38.90	38.70	38.50	38.30	38.10	37.90	37.70
41.2	40.20	40.00	39.81	39.61	39.41	39.21	39.01	38.80	38.60	38.40	38.20	38.00	37.80
41.3	40.31	40.11	39.91	39.71	39.51	39.31	39.11	38.91	38.71	38.51	38.30	38.10	37.90
41.4	40.41	40.21	40.01	39.81	39.61	39.41	39.21	39.01	38.81	38.61	38.41	38.21	38.01
41.5	40.51	40.31	40.11	39.91	39.71	39.51	39.31	39.11	38.91	38.71	38.51	38.31	38.11
41.6	40.61	40.41	40.21	40.01	39.81	39.61	39.41	39.21	39.01	38.81	38.61	38.41	38.21
41.7	40.71	40.51	40.31	40.11	39.91	39.71	39.51	39.31	39.11	38.91	38.71	38.51	38.31
41.8	40.81	40.61	40.41	40.21	40.01	39.81	39.61	39.41	39.21	39.01	38.81	38.61	38.41
41.9	40.91	40.71	40.51	40.31	40.11	39.91	39.71	39.51	39.31	39.11	38.91	38.71	38.51
42	41.01	40.81	40.61	40.41	40.21	40.01	39.82	39.62	39.42	39.22	39.02	38.82	38.62
42.1	41.11	40.91	40.71	40.51	40.32	40.12	39.92	39.72	39.52	39.32	39.12	38.92	38.72
42.2	41.21	41.01	40.81	40.62	40.42	40.22	40.02	39.82	39.62	39.42	39.22	39.02	38.82
42.3	41.31	41.11	40.91	40.72	40.52	40.32	40.12	39.92	39.72	39.52	39.32	39.12	38.92
42.4	41.41	41.21	41.02	40.82	40.62	40.42	40.22	40.02	39.82	39.62	39.42	39.22	39.02
42.5	41.51	41.31	41.12	40.92	40.72	40.52	40.32	40.12	39.92	39.72	39.53	39.33	39.13
42.6	41.61	41.42	41.22	41.02	40.82	40.62	40.42	40.22	40.03	39.83	39.63	39.43	39.23
42.7	41.71	41.52	41.32	41.12	40.92	40.72	40.52	40.33	40.13	39.93	39.73	39.53	39.33
42.8	41.81	41.62	41.42	41.22	41.02	40.82	40.63	40.43	40.23	40.03	39.83	39.63	39.43
42.9	41.92	41.72	41.52	41.32	41.12	40.93	40.73	40.53	40.33	40.13	39.93	39.73	39.53
43	42.02	41.82	41.62	41.42	41.23	41.03	40.83	40.63	40.43	40.23	40.03	39.84	39.64
43.1	42.12	41.92	41.72	41.52	41.33	41.13	40.93	40.73	40.53	40.34	40.14	39.94	39.74
43.2	42.22	42.02	41.82	41.63	41.43	41.23	41.03	40.83	40.64	40.44	40.24	40.04	39.84
43.3	42.32	42.12	41.92	41.73	41.53	41.33	41.13	40.94	40.74	40.54	40.34	40.14	39.94
43.4	42.42	42.22	42.02	41.83	41.63	41.43	41.23	41.04	40.84	40.64	40.44	40.24	40.04
43.5	42.52	42.32	42.13	41.93	41.73	41.53	41.34	41.14	40.94	40.74	40.54	40.35	40.15
43.6	42.62	42.42	42.23	42.03	41.83	41.64	41.44	41.24	41.04	40.84	40.65	40.45	40.25
43.7	42.72	42.52	42.33	42.13	41.93	41.74	41.54	41.34	41.14	40.95	40.75	40.55	40.35
43.8	42.82	42.62	42.43	42.23	42.03	41.84	41.64	41.44	41.25	41.05	40.85	40.65	40.45
43.9	42.92	42.73	42.53	42.33	42.14	41.94	41.74	41.54	41.35	41.15	40.95	40.75	40.56
44	43.02	42.83	42.63	42.43	42.24	42.04	41.84	41.65	41.45	41.25	41.05	40.86	40.66
44.1	43.12	42.93	42.73	42.53	42.34	42.14	41.94	41.75	41.55	41.35	41.16	40.96	40.76
44.2	43.22	43.03	42.83	42.64	42.44	42.24	42.05	41.85	41.65	41.45	41.26	41.06	40.86
44.3	43.32	43.13	42.93	42.74	42.54	42.34	42.15	41.95	41.75	41.56	41.36	41.16	40.96

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
36.38	36.18	35.97	35.77	35.57	35.37	35.17	34.96	34.76	34.56	34.35	34.15	33.95
36.48	36.28	36.08	35.87	35.67	35.47	35.27	35.06	34.86	34.66	34.46	34.25	34.05
36.58	36.38	36.18	35.98	35.77	35.57	35.37	35.17	34.96	34.76	34.56	34.35	34.15
36.68	36.48	36.28	36.08	35.88	35.67	35.47	35.27	35.07	34.86	34.66	34.46	34.25
36.79	36.58	36.38	36.18	35.98	35.78	35.57	35.37	35.17	34.97	34.76	34.56	34.36
36.89	36.69	36.48	36.28	36.08	35.88	35.68	35.47	35.27	35.07	34.86	34.66	34.46
36.99	36.79	36.59	36.38	36.18	35.98	35.78	35.57	35.37	35.17	34.97	34.76	34.56
37.09	36.89	36.69	36.49	36.28	36.08	35.88	35.68	35.47	35.27	35.07	34.87	34.66
37.19	36.99	36.79	36.59	36.39	36.18	35.98	35.78	35.58	35.37	35.17	34.97	34.77
37.29	37.09	36.89	36.69	36.49	36.29	36.08	35.88	35.68	35.48	35.27	35.07	34.87
37.40	37.20	36.99	36.79	36.59	36.39	36.19	35.98	35.78	35.58	35.38	35.17	34.97
37.50	37.30	37.10	36.89	36.69	36.49	36.29	36.09	35.88	35.68	35.48	35.28	35.07
37.60	37.40	37.20	37.00	36.79	36.59	36.39	36.19	35.99	35.78	35.58	35.38	35.18
37.70	37.50	37.30	37.10	36.90	36.69	36.49	36.29	36.09	35.89	35.68	35.48	35.28
37.80	37.60	37.40	37.20	37.00	36.80	36.60	36.39	36.19	35.99	35.79	35.58	35.38
37.91	37.71	37.50	37.30	37.10	36.90	36.70	36.50	36.29	36.09	35.89	35.69	35.48
38.01	37.81	37.61	37.40	37.20	37.00	36.80	36.60	36.40	36.19	35.99	35.79	35.59
38.11	37.91	37.71	37.51	37.31	37.10	36.90	36.70	36.50	36.30	36.09	35.89	35.69
38.21	38.01	37.81	37.61	37.41	37.21	37.01	36.80	36.60	36.40	36.20	36.00	35.79
38.31	38.11	37.91	37.71	37.51	37.31	37.11	36.91	36.70	36.50	36.30	36.10	35.90
38.42	38.22	38.01	37.81	37.61	37.41	37.21	37.01	36.81	36.61	36.40	36.20	36.00
38.52	38.32	38.12	37.92	37.72	37.51	37.31	37.11	36.91	36.71	36.51	36.30	36.10
38.62	38.42	38.22	38.02	37.82	37.62	37.42	37.21	37.01	36.81	36.61	36.41	36.20
38.72	38.52	38.32	38.12	37.92	37.72	37.52	37.32	37.12	36.91	36.71	36.51	36.31
38.82	38.62	38.42	38.22	38.02	37.82	37.62	37.42	37.22	37.02	36.81	36.61	36.41
38.93	38.73	38.53	38.33	38.12	37.92	37.72	37.52	37.32	37.12	36.92	36.72	36.51
39.03	38.83	38.63	38.43	38.23	38.03	37.83	37.62	37.42	37.22	37.02	36.82	36.62
39.13	38.93	38.73	38.53	38.33	38.13	37.93	37.73	37.53	37.33	37.12	36.92	36.72
39.23	39.03	38.83	38.63	38.43	38.23	38.03	37.83	37.63	37.43	37.23	37.03	36.82
39.33	39.14	38.94	38.74	38.53	38.33	38.13	37.93	37.73	37.53	37.33	37.13	36.93
39.44	39.24	39.04	38.84	38.64	38.44	38.24	38.04	37.84	37.63	37.43	37.23	37.03
39.54	39.34	39.14	38.94	38.74	38.54	38.34	38.14	37.94	37.74	37.54	37.33	37.13
39.64	39.44	39.24	39.04	38.84	38.64	38.44	38.24	38.04	37.84	37.64	37.44	37.24
39.74	39.54	39.34	39.15	38.95	38.75	38.55	38.34	38.14	37.94	37.74	37.54	37.34
39.85	39.65	39.45	39.25	39.05	38.85	38.65	38.45	38.25	38.05	37.85	37.64	37.44
39.95	39.75	39.55	39.35	39.15	38.95	38.75	38.55	38.35	38.15	37.95	37.75	37.55
40.05	39.85	39.65	39.45	39.25	39.05	38.85	38.65	38.45	38.25	38.05	37.85	37.65
40.15	39.95	39.75	39.56	39.36	39.16	38.96	38.76	38.56	38.36	38.16	37.95	37.75
40.25	40.06	39.86	39.66	39.46	39.26	39.06	38.86	38.66	38.46	38.26	38.06	37.86
40.36	40.16	39.96	39.76	39.56	39.36	39.16	38.96	38.76	38.56	38.36	38.16	37.96
40.46	40.26	40.06	39.86	39.66	39.46	39.27	39.07	38.87	38.67	38.47	38.26	38.06
40.56	40.36	40.16	39.97	39.77	39.57	39.37	39.17	38.97	38.77	38.57	38.37	38.17
40.66	40.47	40.27	40.07	39.87	39.67	39.47	39.27	39.07	38.87	38.67	38.47	38.27
40.77	40.57	40.37	40.17	39.97	39.77	39.57	39.37	39.18	38.98	38.78	38.58	38.37



表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
44.4	43.43	43.23	43.03	42.84	42.64	42.45	42.25	42.05	41.86	41.66	41.46	41.26	41.07
44.5	43.53	43.33	43.13	42.94	42.74	42.55	42.35	42.15	41.96	41.76	41.56	41.37	41.17
44.6	43.63	43.43	43.24	43.04	42.84	42.65	42.45	42.26	42.06	41.86	41.67	41.47	41.27
44.7	43.73	43.53	43.34	43.14	42.95	42.75	42.55	42.36	42.16	41.96	41.77	41.57	41.37
44.8	43.83	43.63	43.44	43.24	43.05	42.85	42.65	42.46	42.26	42.07	41.87	41.67	41.47
44.9	43.93	43.73	43.54	43.34	43.15	42.95	42.76	42.56	42.36	42.17	41.97	41.77	41.58
45	44.03	43.83	43.64	43.44	43.25	<b>43.05</b>	<b>42.86</b>	42.66	42.47	42.27	42.07	41.88	41.68
45.1	44.13	43.94	43.74	43.55	<b>43.35</b>	43.16	42.96	42.76	42.57	42.37	42.17	41.98	41.78
45.2	44.23	44.04	43.84	<b>43.65</b>	43.45	<b>43.26</b>	<b>43.06</b>	42.87	42.67	42.47	42.28	42.08	41.88
45.3	44.33	44.14	43.94	43.75	<b>43.55</b>	43.36	43.16	<b>42.97</b>	42.77	42.57	42.38	42.18	41.99
45.4	44.43	44.24	44.04	<b>43.85</b>	43.65	43.46	43.26	43.07	42.87	42.68	42.48	42.28	42.09
45.5	44.53	44.34	<b>44.14</b>	<b>43.95</b>	43.76	43.56	43.37	43.17	42.97	<b>42.78</b>	42.58	42.39	42.19
45.6	44.63	44.44	<b>44.25</b>	44.05	<b>43.86</b>	43.66	43.47	<b>43.27</b>	43.08	42.88	42.68	42.49	42.29
45.7	44.73	44.54	<b>44.35</b>	44.15	<b>43.96</b>	<b>43.76</b>	<b>43.57</b>	<b>43.37</b>	43.18	42.98	42.79	42.59	42.39
45.8	44.84	44.64	44.45	<b>44.25</b>	<b>44.06</b>	<b>43.86</b>	<b>43.67</b>	<b>43.47</b>	<b>43.28</b>	43.08	42.89	42.69	42.50
45.9	44.94	44.74	44.55	<b>44.35</b>	<b>44.16</b>	<b>43.97</b>	<b>43.77</b>	<b>43.58</b>	<b>43.38</b>	43.19	42.99	42.80	42.60
46	45.04	44.84	44.65	44.46	<b>44.26</b>	44.07	43.87	<b>43.68</b>	<b>43.48</b>	43.29	43.09	42.90	42.70
46.1	45.14	44.94	44.75	44.56	<b>44.36</b>	44.17	43.97	<b>43.78</b>	<b>43.58</b>	43.39	43.19	43.00	42.80
46.2	45.24	<b>45.04</b>	44.85	44.66	44.46	44.27	44.08	<b>43.88</b>	<b>43.69</b>	43.49	43.30	43.10	42.91
46.3	45.34	<b>45.15</b>	44.95	44.76	44.57	<b>44.37</b>	<b>44.18</b>	43.98	<b>43.79</b>	43.59	43.40	43.20	43.01
46.4	45.44	<b>45.25</b>	45.05	44.86	44.67	44.47	44.28	<b>44.08</b>	<b>43.89</b>	43.70	43.50	43.31	43.11
46.5	45.54	<b>45.35</b>	45.15	44.96	44.77	44.57	44.38	<b>44.19</b>	<b>43.99</b>	43.80	43.60	43.41	43.21
46.6	45.64	<b>45.45</b>	45.26	45.06	44.87	<b>44.68</b>	<b>44.48</b>	44.29	<b>44.09</b>	43.90	43.70	43.51	43.31
46.7	45.74	<b>45.55</b>	45.36	45.16	44.97	44.78	44.58	<b>44.39</b>	<b>44.20</b>	44.00	43.81	43.61	43.42
46.8	45.84	<b>45.66</b>	45.46	45.26	<b>45.07</b>	44.88	44.68	<b>44.49</b>	<b>44.30</b>	44.10	43.91	43.71	43.52
46.9	45.94	<b>45.76</b>	45.56	45.37	<b>45.17</b>	44.98	44.79	<b>44.59</b>	<b>44.40</b>	44.20	44.01	43.82	43.62
47	46.04	<b>45.85</b>	45.66	45.47	<b>45.27</b>	<b>45.08</b>	<b>44.89</b>	<b>44.69</b>	<b>44.50</b>	44.31	44.11	43.92	43.72
47.1	46.14	<b>45.95</b>	45.76	45.57	<b>45.37</b>	<b>45.18</b>	<b>44.99</b>	<b>44.80</b>	<b>44.60</b>	44.41	44.21	44.02	43.83
47.2	46.24	46.05	<b>45.86</b>	45.67	45.48	<b>45.28</b>	<b>45.09</b>	44.90	<b>44.70</b>	44.51	44.32	44.12	43.93
47.3	46.35	46.15	<b>45.96</b>	45.77	45.58	45.38	45.19	45.00	44.81	44.61	44.42	44.22	44.03
47.4	46.45	46.25	<b>46.06</b>	45.87	45.68	45.49	45.29	45.10	44.91	44.71	44.52	44.33	44.13
47.5	46.55	46.36	46.16	<b>45.97</b>	45.78	45.59	45.39	45.20	<b>45.01</b>	44.82	44.62	44.43	44.24
47.6	46.65	46.46	46.26	46.07	45.88	45.69	45.50	<b>45.30</b>	45.11	44.92	44.72	44.53	44.34
47.7	46.75	46.56	46.37	46.17	45.98	<b>45.79</b>	<b>45.60</b>	45.41	<b>45.21</b>	45.02	44.83	44.63	44.44
47.8	46.85	46.66	46.47	46.28	<b>46.08</b>	45.89	45.70	45.51	45.31	45.12	44.93	44.74	44.54
47.9	46.95	46.76	46.57	46.38	46.18	<b>45.99</b>	<b>45.80</b>	45.61	45.42	45.22	45.03	44.84	44.64
48	47.05	46.86	46.67	46.48	46.29	46.09	45.90	45.71	45.52	45.33	45.13	44.94	44.75
48.1	47.15	46.96	46.77	46.58	46.39	46.20	46.00	45.81	45.62	45.43	45.23	45.04	44.85
48.2	47.25	47.06	46.87	46.68	46.49	46.30	46.11	45.91	45.72	45.53	45.34	45.14	44.95
48.3	47.35	47.16	46.97	46.78	46.59	46.40	46.21	46.02	45.82	45.63	45.44	45.25	45.05
48.4	47.45	47.26	47.07	46.88	46.69	46.50	46.31	46.12	45.92	45.73	45.54	45.35	45.16
48.5	47.55	47.36	47.17	46.98	46.79	46.60	46.41	46.22	46.03	45.83	45.64	45.45	45.26
48.6	47.65	47.46	47.27	47.08	46.89	46.70	46.51	46.32	46.13	45.94	45.74	45.55	45.36
48.7	47.75	47.57	47.38	47.18	46.99	46.80	46.61	46.42	46.23	46.04	45.85	45.65	45.46

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
40.87	40.67	40.47	40.27	40.07	39.88	39.68	39.48	39.28	39.08	38.88	38.68	38.48
40.97	40.77	40.57	40.38	40.18	39.98	39.78	39.58	39.38	39.18	38.98	38.78	38.58
41.07	40.87	40.68	40.48	40.28	40.08	39.88	39.68	39.48	39.29	39.09	38.89	38.69
41.18	40.98	40.78	40.58	40.38	40.18	39.99	39.79	39.59	39.39	39.19	38.99	38.79
41.28	41.08	40.88	40.68	40.49	40.29	40.09	39.89	39.69	39.49	39.29	39.09	38.89
41.38	41.18	40.98	40.79	40.59	40.39	40.19	39.99	39.79	39.60	39.40	39.20	39.00
41.48	41.28	41.09	40.89	40.69	40.49	40.29	40.10	39.90	39.70	39.50	39.30	39.10
41.58	41.39	41.19	40.99	40.79	40.60	40.40	40.20	40.00	39.80	39.60	39.40	39.20
41.69	41.49	41.29	41.09	40.90	40.70	40.50	40.30	40.10	39.91	39.71	39.51	39.31
41.79	41.59	41.39	41.20	41.00	40.80	40.60	40.41	40.21	40.01	39.81	39.61	39.41
41.89	41.69	41.50	41.30	41.10	40.90	40.71	40.51	40.31	40.11	39.91	39.71	39.51
41.99	41.80	41.60	41.40	41.21	41.01	40.81	40.61	40.41	40.22	40.02	39.82	39.62
42.10	41.90	41.70	41.51	41.31	41.11	40.91	40.72	40.52	40.32	40.12	39.92	39.72
42.20	42.00	41.81	41.61	41.41	41.21	41.02	40.82	40.62	40.42	40.22	40.03	39.83
42.30	42.10	41.91	41.71	41.51	41.32	41.12	40.92	40.72	40.53	40.33	40.13	39.93
42.40	42.21	42.01	41.81	41.62	41.42	41.22	41.02	40.83	40.63	40.43	40.23	40.03
42.51	42.31	42.11	41.92	41.72	41.52	41.33	41.13	40.93	40.73	40.53	40.34	40.14
42.61	42.41	42.22	42.02	41.82	41.63	41.43	41.23	41.03	40.84	40.64	40.44	40.24
42.71	42.51	42.32	42.12	41.93	41.73	41.53	41.33	41.14	40.94	40.74	40.54	40.35
42.81	42.62	42.42	42.22	42.03	41.83	41.63	41.44	41.24	41.04	40.85	40.65	40.45
42.91	42.72	42.52	42.33	42.13	41.93	41.74	41.54	41.34	41.15	40.95	40.75	40.55
43.02	42.82	42.63	42.43	42.23	42.04	41.84	41.64	41.45	41.25	41.05	40.85	40.66
43.12	42.92	42.73	42.53	42.34	42.14	41.94	41.75	41.55	41.35	41.15	40.96	40.76
43.22	43.03	42.83	42.64	42.44	42.24	42.05	41.85	41.65	41.46	41.26	41.06	40.86
43.32	43.13	42.93	42.74	42.54	42.35	42.15	41.95	41.76	41.56	41.36	41.17	40.97
43.43	43.23	43.04	42.84	42.65	42.45	42.25	42.06	41.86	41.66	41.47	41.27	41.07
43.53	43.33	43.14	42.94	42.75	42.55	42.36	42.16	41.96	41.77	41.57	41.37	41.18
43.63	43.44	43.24	43.05	42.85	42.66	42.46	42.26	42.07	41.87	41.67	41.48	41.28
43.73	43.54	43.34	43.15	42.95	42.76	42.56	42.37	42.17	41.97	41.78	41.58	41.38
43.84	43.64	43.45	43.25	43.06	42.86	42.67	42.47	42.27	42.08	41.88	41.68	41.49
43.94	43.74	43.55	43.35	43.16	42.96	42.77	42.57	42.38	42.18	41.98	41.79	41.59
44.04	43.85	43.65	43.46	43.26	43.07	42.87	42.68	42.48	42.28	42.09	41.89	41.70
44.14	43.95	43.75	43.56	43.37	43.17	42.98	42.78	42.58	42.39	42.19	42.00	41.80
44.25	44.05	43.86	43.66	43.47	43.27	43.08	42.88	42.69	42.49	42.30	42.10	41.90
44.35	44.15	43.96	43.77	43.57	43.38	43.18	42.99	42.79	42.60	42.40	42.20	42.01
44.45	44.26	44.06	43.87	43.67	43.48	43.28	43.09	42.89	42.70	42.50	42.31	42.11
44.55	44.36	44.17	43.97	43.78	43.58	43.39	43.19	43.00	42.80	42.61	42.41	42.21
44.66	44.46	44.27	44.07	43.88	43.69	43.49	43.30	43.10	42.91	42.71	42.51	42.32
44.76	44.56	44.37	44.18	43.98	43.79	43.59	43.40	43.20	43.01	42.81	42.62	42.42
44.86	44.67	44.47	44.28	44.09	43.89	43.70	43.50	43.31	43.11	42.92	42.72	42.53
44.96	44.77	44.58	44.38	44.19	43.99	43.80	43.61	43.41	43.22	43.02	42.83	42.63
45.06	44.87	44.68	44.49	44.29	44.10	43.90	43.71	43.51	43.32	43.12	42.93	42.73
45.17	44.97	44.78	44.59	44.39	44.20	44.01	43.81	43.62	43.42	43.23	43.03	42.84
45.27	45.08	44.88	44.69	44.50	44.30	44.11	43.92	43.72	43.53	43.33	43.14	42.94

表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
48.8	47.86	47.67	47.48	47.29	47.10	46.90	46.71	46.52	46.33	46.14	45.95	45.76	45.56
48.9	47.96	47.77	47.58	47.39	47.20	47.01	46.82	46.62	46.43	46.24	46.05	45.86	45.67
49	48.06	47.87	47.68	47.49	47.30	47.11	46.92	46.73	46.54	46.34	46.15	45.96	45.77
49.1	48.16	47.97	47.78	47.59	47.40	47.21	47.02	46.83	46.64	46.45	46.25	46.06	45.87
49.2	48.26	48.07	47.88	47.69	47.50	47.31	47.12	46.93	46.74	46.55	46.36	46.16	45.97
49.3	48.36	48.17	47.98	47.79	47.60	47.41	47.22	47.03	46.84	46.65	46.46	46.27	46.08
49.4	48.46	48.27	48.08	47.89	47.70	47.51	47.32	47.13	46.94	46.75	46.56	46.37	46.18
49.5	48.56	48.37	48.18	47.99	47.80	47.61	47.42	47.23	47.04	46.85	46.66	46.47	46.28
49.6	48.66	48.47	48.28	48.09	47.91	47.72	47.53	47.34	47.15	46.95	46.76	46.57	46.38
49.7	48.76	48.57	48.38	48.20	48.01	47.82	47.63	47.44	47.25	47.06	46.87	46.68	46.48
49.8	48.86	48.67	48.49	48.30	48.11	47.92	47.73	47.54	47.35	47.16	46.97	46.78	46.59
49.9	48.96	48.77	48.59	48.40	48.21	48.02	47.83	47.64	47.45	47.26	47.07	46.88	46.69
50	49.06	48.88	48.69	48.50	48.31	48.12	47.93	47.74	47.55	47.36	47.17	46.98	46.79
50.1	49.16	48.98	48.79	48.60	48.41	48.22	48.03	47.84	47.65	47.46	47.27	47.08	46.89
50.2	49.26	49.08	48.89	48.70	48.51	48.32	48.13	47.94	47.76	47.57	47.38	47.19	46.99
50.3	49.37	49.18	48.99	48.80	48.61	48.42	48.24	48.05	47.86	47.67	47.48	47.29	47.10
50.4	49.47	49.28	49.09	48.90	48.71	48.53	48.34	48.15	47.96	47.77	47.58	47.39	47.20
50.5	49.57	49.38	49.19	49.00	48.82	48.63	48.44	48.25	48.06	47.87	47.68	47.49	47.30
50.6	49.67	49.48	49.29	49.10	48.92	48.73	48.54	48.35	48.16	47.97	47.78	47.59	47.40
50.7	49.77	49.58	49.39	49.21	49.02	48.83	48.64	48.45	48.26	48.07	47.89	47.70	47.51
50.8	49.87	49.68	49.49	49.31	49.12	48.93	48.74	48.55	48.37	48.18	47.99	47.80	47.61
50.9	49.97	49.78	49.60	49.41	49.22	49.03	48.84	48.66	48.47	48.28	48.09	47.90	47.71
51	50.07	49.88	49.70	49.51	49.32	49.13	48.95	48.76	48.57	48.38	48.19	48.00	47.81
51.1	50.17	49.98	49.80	49.61	49.42	49.23	49.05	48.86	48.67	48.48	48.29	48.10	47.91
51.2	50.27	50.08	49.90	49.71	49.52	49.34	49.15	48.96	48.77	48.58	48.39	48.21	48.02
51.3	50.37	50.19	50.00	49.81	49.62	49.44	49.25	49.06	48.87	48.69	48.50	48.31	48.12
51.4	50.47	50.29	50.10	49.91	49.73	49.54	49.35	49.16	48.98	48.79	48.60	48.41	48.22
51.5	50.57	50.39	50.20	50.01	49.83	49.64	49.45	49.26	49.08	48.89	48.70	48.51	48.32
51.6	50.67	50.49	50.30	50.12	49.93	49.74	49.55	49.37	49.18	48.99	48.80	48.61	48.42
51.7	50.77	50.59	50.40	50.22	50.03	49.84	49.66	49.47	49.28	49.09	48.90	48.72	48.53
51.8	50.88	50.69	50.50	50.32	50.13	49.94	49.76	49.57	49.38	49.19	49.01	48.82	48.63
51.9	50.98	50.79	50.60	50.42	50.23	50.04	49.86	49.67	49.48	49.30	49.11	48.92	48.73
52	51.08	50.89	50.71	50.52	50.33	50.15	49.96	49.77	49.58	49.40	49.21	49.02	48.83
52.1	51.18	50.99	50.81	50.62	50.43	50.25	50.06	49.87	49.69	49.50	49.31	49.12	48.94
52.2	51.28	51.09	50.91	50.72	50.53	50.35	50.16	49.98	49.79	49.60	49.41	49.23	49.04
52.3	51.38	51.19	51.01	50.82	50.64	50.45	50.26	50.08	49.89	49.70	49.52	49.33	49.14
52.4	51.48	51.29	51.11	50.92	50.74	50.55	50.36	50.18	49.99	49.80	49.62	49.43	49.24
52.5	51.58	51.39	51.21	51.02	50.84	50.65	50.47	50.28	50.09	49.91	49.72	49.53	49.34
52.6	51.68	51.50	51.31	51.13	50.94	50.75	50.57	50.38	50.19	50.01	49.82	49.63	49.45
52.7	51.78	51.60	51.41	51.23	51.04	50.85	50.67	50.48	50.30	50.11	49.92	49.74	49.55
52.8	51.88	51.70	51.51	51.33	51.14	50.96	50.77	50.58	50.40	50.21	50.02	49.84	49.65
52.9	51.98	51.80	51.61	51.43	51.24	51.06	50.87	50.69	50.50	50.31	50.13	49.94	49.75
53	52.08	51.90	51.71	51.53	51.34	51.16	50.97	50.79	50.60	50.41	50.23	50.04	49.85
53.1	52.18	52.00	51.81	51.63	51.44	51.26	51.07	50.89	50.70	50.52	50.33	50.14	49.96

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
45.37	45.18	44.99	44.79	44.60	44.41	44.21	44.02	43.82	43.63	43.44	43.24	43.05
45.47	45.28	45.09	44.90	44.70	44.51	44.32	44.12	43.93	43.73	43.54	43.34	43.15
45.58	45.38	45.19	45.00	44.81	44.61	44.42	44.23	44.03	43.84	43.64	43.45	43.25
45.68	45.49	45.29	45.10	44.91	44.72	44.52	44.33	44.13	43.94	43.75	43.55	43.36
45.78	45.59	45.40	45.20	45.01	44.82	44.63	44.43	44.24	44.04	43.85	43.66	43.46
45.88	45.69	45.50	45.31	45.11	44.92	44.73	44.53	44.34	44.15	43.95	43.76	43.56
45.99	45.79	45.60	45.41	45.22	45.02	44.83	44.64	44.44	44.25	44.06	43.86	43.67
46.09	45.90	45.70	45.51	45.32	45.13	44.93	44.74	44.55	44.35	44.16	43.97	43.77
46.19	46.00	45.81	45.61	45.42	45.23	45.04	44.84	44.65	44.46	44.26	44.07	43.88
46.29	46.10	45.91	45.72	45.53	45.33	45.14	44.95	44.75	44.56	44.37	44.17	43.98
46.40	46.20	46.01	45.82	45.63	45.44	45.24	45.05	44.86	44.66	44.47	44.28	44.08
46.50	46.31	46.11	45.92	45.73	45.54	45.35	45.15	44.96	44.77	44.57	44.38	44.19
46.60	46.41	46.22	51.15	50.97	50.78	50.59	50.41	50.22	50.03	49.85	49.66	49.47
46.70	46.51	46.32	51.25	51.07	50.88	50.70	50.51	50.32	50.14	49.95	49.76	49.58
46.80	46.61	46.42	51.36	51.17	50.99	50.80	50.61	50.43	50.24	50.05	49.87	49.68
46.91	46.72	46.52	51.46	51.27	51.09	50.90	50.72	50.53	50.34	50.16	49.97	49.78
47.01	46.82	46.63	51.56	51.38	51.19	51.01	50.82	50.63	50.45	50.26	50.07	49.89
47.11	46.92	46.73	51.66	51.48	51.29	51.11	50.92	50.74	50.55	50.36	50.18	49.99
47.21	47.02	46.83	51.77	51.58	51.40	51.21	51.02	50.84	50.65	50.47	50.28	50.09
47.32	47.13	46.94	51.87	51.68	51.50	51.31	51.13	50.94	50.76	50.57	50.38	50.20
47.42	47.23	47.04	51.97	51.79	51.60	51.42	51.23	51.04	50.86	50.67	50.49	50.30
47.52	47.33	47.14	52.07	51.89	51.70	51.52	51.33	51.15	50.96	50.78	50.59	50.40
47.62	47.43	47.24	52.18	51.99	51.81	51.62	51.44	51.25	51.06	50.88	50.69	50.51
47.72	47.54	47.35	52.28	52.09	51.91	51.72	51.54	51.35	51.17	50.98	50.80	50.61
47.83	47.64	47.45	52.38	52.20	52.01	51.83	51.64	51.46	51.27	51.08	50.90	50.71
47.93	47.74	47.55	52.48	52.30	52.11	51.93	51.74	51.56	51.37	51.19	51.00	50.82
48.03	47.84	47.65	52.59	52.40	52.22	52.03	51.85	51.66	51.48	51.29	51.10	50.92
48.13	47.94	47.76	52.69	52.50	52.32	52.13	51.95	51.76	51.58	51.39	51.21	51.02
48.24	48.05	47.86	52.79	52.61	52.42	52.24	52.05	51.87	51.68	51.50	51.31	51.13
48.34	48.15	47.96	52.89	52.71	52.52	52.34	52.15	51.97	51.78	51.60	51.41	51.23
48.44	48.25	48.06	52.99	52.81	52.63	52.44	52.26	52.07	51.89	51.70	51.52	51.33
48.54	48.35	48.16	53.10	52.91	52.73	52.54	52.36	52.18	51.99	51.81	51.62	51.43
48.64	48.46	48.27	53.20	53.02	52.83	52.65	52.46	52.28	52.09	51.91	51.72	51.54
48.75	48.56	48.37	53.30	53.12	52.93	52.75	52.57	52.38	52.20	52.01	51.83	51.64
48.85	48.66	48.47	53.40	53.22	53.04	52.85	52.67	52.48	52.30	52.11	51.93	51.74
48.95	48.76	48.57	53.51	53.32	53.14	52.95	52.77	52.59	52.40	52.22	52.03	51.85
49.05	48.87	48.68	53.61	53.42	53.24	53.06	52.87	52.69	52.51	52.32	52.14	51.95
49.16	48.97	48.78	53.71	53.53	53.34	53.16	52.98	52.79	52.61	52.42	52.24	52.05
49.26	49.07	48.88	53.81	53.63	53.45	53.26	53.08	52.89	52.71	52.53	52.34	52.16
49.36	49.17	48.98	53.91	53.73	53.55	53.37	53.18	53.00	52.81	52.63	52.45	52.26
49.46	49.27	49.09	54.02	53.83	53.65	53.47	53.28	53.10	52.92	52.73	52.55	52.36
49.56	49.38	49.19	54.12	53.94	53.75	53.57	53.39	53.20	53.02	52.84	52.65	52.47
49.67	49.48	49.29	54.22	54.04	53.86	53.67	53.49	53.31	53.12	52.94	52.75	52.57
49.77	49.58	49.39	54.32	54.14	53.96	53.78	53.59	53.41	53.23	53.04	52.86	52.67

表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
53.2	52.28	52.10	51.92	51.73	51.55	51.36	51.18	50.99	50.80	50.62	50.43	50.24	50.06
53.3	52.38	52.20	52.02	51.83	51.65	51.46	51.28	51.09	50.91	50.72	50.53	50.35	50.16
53.4	52.49	52.30	52.12	51.93	51.75	51.56	51.38	51.19	51.01	50.82	50.64	50.45	50.26
53.5	52.59	52.40	52.22	52.03	51.85	51.66	51.48	51.29	51.11	50.92	50.74	50.55	50.36
53.6	52.69	52.50	52.32	52.13	51.95	51.77	51.58	51.40	51.21	51.02	50.84	50.65	50.47
53.7	52.79	52.60	52.42	52.24	52.05	51.87	51.68	51.50	51.31	51.13	50.94	50.75	50.57
53.8	52.89	52.70	52.52	52.34	52.15	51.97	51.78	51.60	51.41	51.23	51.04	50.86	50.67
53.9	52.99	52.80	52.62	52.44	52.25	52.07	51.88	51.70	51.51	51.33	51.14	50.96	50.77
54	53.09	52.91	52.72	52.54	52.35	52.17	51.99	51.80	51.62	51.43	51.25	51.06	50.87
54.1	53.19	53.01	52.82	52.64	52.46	52.27	52.09	51.90	51.72	51.53	51.35	51.16	50.98
54.2	53.29	53.11	52.92	52.74	52.56	52.37	52.19	52.00	51.82	51.63	51.45	51.26	51.08
54.3	53.39	53.21	53.02	52.84	52.66	52.47	52.29	52.11	51.92	51.74	51.55	51.37	51.18
54.4	53.49	53.31	53.13	52.94	52.76	52.58	52.39	52.21	52.02	51.84	51.65	51.47	51.28
54.5	53.59	53.41	53.23	53.04	52.86	52.68	52.49	52.31	52.12	51.94	51.75	51.57	51.38
54.6	53.69	53.51	53.33	53.14	52.96	52.78	52.59	52.41	52.23	52.04	51.86	51.67	51.49
54.7	53.79	53.61	53.43	53.25	53.06	52.88	52.70	52.51	52.33	52.14	51.96	51.77	51.59
54.8	53.89	53.71	53.53	53.35	53.16	52.98	52.80	52.61	52.43	52.24	52.06	51.87	51.69
54.9	53.99	53.81	53.63	53.45	53.26	53.08	52.90	52.71	52.53	52.35	52.16	51.98	51.79
55	54.09	53.91	53.73	53.55	53.37	53.18	53.00	52.82	52.63	52.45	52.26	52.08	51.89
55.1	54.20	54.01	53.83	53.65	53.47	53.28	53.10	52.92	52.73	52.55	52.36	52.18	52.00
55.2	54.30	54.11	53.93	53.75	53.57	53.38	53.20	53.02	52.83	52.65	52.47	52.28	52.10
55.3	54.40	54.21	54.03	53.85	53.67	53.49	53.30	53.12	52.94	52.75	52.57	52.38	52.20
55.4	54.50	54.32	54.13	53.95	53.77	53.59	53.40	53.22	53.04	52.85	52.67	52.49	52.30
55.5	54.60	54.42	54.23	54.05	53.87	53.69	53.51	53.32	53.14	52.96	52.77	52.59	52.40
55.6	54.70	54.52	54.34	54.15	53.97	53.79	53.61	53.42	53.24	53.06	52.87	52.69	52.51
55.7	54.80	54.62	54.44	54.25	54.07	53.89	53.71	53.52	53.34	53.16	52.98	52.79	52.61
55.8	54.90	54.72	54.54	54.36	54.17	53.99	53.81	53.63	53.44	53.26	53.08	52.89	52.71
55.9	55.00	54.82	54.64	54.46	54.27	54.09	53.91	53.73	53.54	53.36	53.18	52.99	52.81
56	55.10	54.92	54.74	54.56	54.38	54.19	54.01	53.83	53.65	53.46	53.28	53.10	52.91
56.1	55.20	55.02	54.84	54.66	54.48	54.29	54.11	53.93	53.75	53.56	53.38	53.20	53.01
56.2	55.30	55.12	54.94	54.76	54.58	54.40	54.21	54.03	53.85	53.67	53.48	53.30	53.12
56.3	55.40	55.22	55.04	54.86	54.68	54.50	54.32	54.13	53.95	53.77	53.59	53.40	53.22
56.4	55.50	55.32	55.14	54.96	54.78	54.60	54.42	54.23	54.05	53.87	53.69	53.50	53.32
56.5	55.60	55.42	55.24	55.06	54.88	54.70	54.52	54.34	54.15	53.97	53.79	53.61	53.42
56.6	55.70	55.52	55.34	55.16	54.98	54.80	54.62	54.44	54.26	54.07	53.89	53.71	53.52
56.7	55.80	55.62	55.44	55.26	55.08	54.90	54.72	54.54	54.36	54.17	53.99	53.81	53.63
56.8	55.91	55.73	55.54	55.36	55.18	55.00	54.82	54.64	54.46	54.28	54.09	53.91	53.73
56.9	56.01	55.83	55.65	55.47	55.28	55.10	54.92	54.74	54.56	54.38	54.20	54.01	53.83
57	56.11	55.93	55.75	55.57	55.39	55.20	55.02	54.84	54.66	54.48	54.30	54.11	53.93
57.1	56.21	56.03	55.85	55.67	55.49	55.31	55.13	54.94	54.76	54.58	54.40	54.22	54.03
57.2	56.31	56.13	55.95	55.77	55.59	55.41	55.23	55.05	54.86	54.68	54.50	54.32	54.14
57.3	56.41	56.23	56.05	55.87	55.69	55.51	55.33	55.15	54.97	54.78	54.60	54.42	54.24
57.4	56.51	56.33	56.15	55.97	55.79	55.61	55.43	55.25	55.07	54.89	54.70	54.52	54.34
57.5	56.61	56.43	56.25	56.07	55.89	55.71	55.53	55.35	55.17	54.99	54.81	54.62	54.44

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
49.87	49.68	49.50	54.43	54.24	54.06	53.88	53.69	53.51	53.33	53.14	52.96	52.78
49.97	49.79	49.60	54.53	54.35	54.16	53.98	53.80	53.61	53.43	53.25	53.06	52.88
50.08	49.89	49.70	54.63	54.45	54.27	54.08	53.90	53.72	53.53	33.35	53.17	52.98
50.18	49.99	49.80	54.73	54.55	54.37	54.19	54.00	53.82	53.64	53.45	53.27	53.09
50.28	50.09	49.91	54.84	54.65	54.47	54.29	54.11	53.92	53.74	53.56	53.37	53.19
50.38	50.20	50.01	54.94	54.76	54.57	54.39	54.21	54.03	53.84	53.66	53.48	53.29
50.48	50.30	50.11	55.04	54.86	54.68	54.49	54.31	54.13	53.94	53.76	53.58	53.39
50.59	50.40	50.21	55.14	54.96	54.78	54.60	54.41	54.23	54.05	53.86	53.68	53.50
50.69	50.50	50.32	55.24	55.06	54.88	54.70	54.52	54.33	54.15	53.97	53.78	53.60
50.79	50.60	50.42	55.35	55.16	54.98	54.80	54.62	54.44	54.25	54.07	53.89	53.70
50.89	50.71	50.52	55.45	55.27	55.09	54.90	54.72	54.54	54.36	54.17	53.99	53.81
50.99	50.81	50.62	55.55	55.37	55.19	55.01	54.82	54.64	54.46	54.28	54.09	53.91
51.10	50.91	50.72	55.65	55.47	55.29	55.11	54.93	54.74	54.56	54.38	54.20	54.01
51.20	51.01	50.83	55.76	55.57	55.39	55.21	55.03	54.85	54.66	54.48	54.30	54.12
51.30	51.11	50.93	55.86	55.68	55.49	55.31	55.13	54.95	54.77	54.58	54.40	54.22
51.40	51.22	51.03	55.96	55.78	55.60	55.42	55.23	55.05	54.87	54.69	54.51	54.32
51.50	51.32	51.13	56.06	55.88	55.70	55.52	55.34	55.15	54.97	54.79	54.61	54.43
51.61	51.42	51.24	56.16	55.98	55.80	55.62	55.44	55.26	55.08	54.89	54.71	54.53
51.71	51.52	51.34	51.15	50.97	50.78	50.59	50.41	50.22	50.03	49.85	49.66	49.47
51.81	51.63	51.44	51.25	51.07	50.88	50.70	50.51	50.32	50.14	49.95	49.76	49.58
51.91	51.73	51.54	51.36	51.17	50.99	50.80	50.61	50.43	50.24	50.05	49.87	49.68
52.01	51.83	51.64	51.46	51.27	51.09	50.90	50.72	50.53	50.34	50.16	49.97	49.78
52.12	51.93	51.75	51.56	51.38	51.19	51.01	50.82	50.63	50.45	50.26	50.07	49.89
52.22	52.03	51.85	51.66	51.48	51.29	51.11	50.92	50.74	50.55	50.36	50.18	49.99
52.32	52.14	51.95	51.77	51.58	51.40	51.21	51.02	50.84	50.65	50.47	50.28	50.09
52.42	52.24	52.05	51.87	51.68	51.50	51.31	51.13	50.94	50.76	50.57	50.38	50.20
52.53	52.34	52.16	51.97	51.79	51.60	51.42	51.23	51.04	50.86	50.67	50.49	50.30
52.63	52.44	52.26	52.07	51.89	51.70	51.52	51.33	51.15	50.96	50.78	50.59	50.40
52.73	52.54	52.36	52.18	51.99	51.81	51.62	51.44	51.25	51.06	50.88	50.69	50.51
52.83	52.65	52.46	52.28	52.09	51.91	51.72	51.54	51.35	51.17	50.98	50.80	50.61
52.93	52.75	52.57	52.38	52.20	52.01	51.83	51.64	51.46	51.27	51.08	50.90	50.71
53.04	52.85	52.67	52.48	52.30	52.11	51.93	51.74	51.56	51.37	51.19	51.00	50.82
53.14	52.95	52.77	52.59	52.40	52.22	52.03	51.85	51.66	51.48	51.29	51.10	50.92
53.24	53.06	52.87	52.69	52.50	52.32	52.13	51.95	51.76	51.58	51.39	51.21	51.02
53.34	53.16	52.97	52.79	52.61	52.42	52.24	52.05	51.87	51.68	51.50	51.31	51.13
53.44	53.26	53.08	52.89	52.71	52.52	52.34	52.15	51.97	51.78	51.60	51.41	51.23
53.55	53.36	53.18	52.99	52.81	52.63	52.44	52.26	52.07	51.89	51.70	51.52	51.33
53.65	53.46	53.28	53.10	52.91	52.73	52.54	52.36	52.18	51.99	51.81	51.62	51.43
53.75	53.57	53.38	53.20	53.02	52.83	52.65	52.46	52.28	52.09	51.91	51.72	51.54
53.85	53.67	53.48	53.30	53.12	52.93	52.75	52.57	52.38	52.20	52.01	51.83	51.64
53.95	53.77	53.59	53.40	53.22	53.04	52.85	52.67	52.48	52.30	52.11	51.93	51.74
54.05	53.87	53.69	53.51	53.32	53.14	52.95	52.77	52.59	52.40	52.22	52.03	51.85
54.16	53.97	53.79	53.61	53.42	53.24	53.06	52.87	52.69	52.51	52.32	52.14	51.95
54.26	54.08	53.89	53.71	53.53	53.34	53.16	52.98	52.79	52.61	52.42	52.24	52.05

表 B.2

酒精计浓度/ (% vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
57.6	56.71	56.53	56.35	56.17	55.99	55.81	55.63	55.45	55.27	55.09	54.91	54.72	54.54
57.7	56.81	56.63	56.45	56.27	56.09	55.91	55.73	55.55	55.37	55.19	55.01	54.83	54.64
57.8	56.91	56.73	56.55	56.37	56.19	56.01	55.83	55.65	55.47	55.29	55.11	54.93	54.75
57.9	57.01	56.83	56.65	56.47	56.29	56.11	55.93	55.75	55.57	55.39	55.21	55.03	54.85
58	57.11	56.93	56.75	56.58	56.40	56.22	56.04	55.86	55.68	55.49	55.31	55.13	54.95
58.1	57.21	57.03	56.86	56.68	56.50	56.32	56.14	55.96	55.78	55.60	55.41	55.23	55.05
58.2	57.31	57.13	56.96	56.78	56.60	56.42	56.24	56.06	55.88	55.70	55.52	55.34	55.15
58.3	57.41	57.24	57.06	56.88	56.70	56.52	56.34	56.16	55.98	55.80	55.62	55.44	55.26
58.4	57.51	57.34	57.16	56.98	56.80	56.62	56.44	56.26	56.08	55.90	55.72	55.54	55.36
58.5	57.61	57.44	57.26	57.08	56.90	56.72	56.54	56.36	56.18	56.00	55.82	55.64	55.46
58.6	57.72	57.54	57.36	57.18	57.00	56.82	56.64	56.46	56.28	56.10	55.92	55.74	55.56
58.7	57.82	57.64	57.46	57.28	57.10	56.92	56.74	56.56	56.39	56.20	56.02	55.84	55.66
58.8	57.92	57.74	57.56	57.38	57.20	57.02	56.85	56.67	56.49	56.31	56.13	55.95	55.76
58.9	58.02	57.84	57.66	57.48	57.30	57.13	56.95	56.77	56.59	56.41	56.23	56.05	55.87
59	58.12	57.94	57.76	57.58	57.41	57.23	57.05	56.87	56.69	56.51	56.33	56.15	55.97
59.1	58.22	58.04	57.86	57.68	57.51	57.33	57.15	56.97	56.79	56.61	56.43	56.25	56.07
59.2	58.32	58.14	57.96	57.79	57.61	57.43	57.25	57.07	56.89	56.71	56.53	56.35	56.17
59.3	58.42	58.24	58.06	57.89	57.71	57.53	57.35	57.17	56.99	56.81	56.63	56.45	56.27
59.4	58.52	58.34	58.17	57.99	57.81	57.63	57.45	57.27	57.09	56.92	56.74	56.56	56.38
59.5	58.62	58.44	58.27	58.09	57.91	57.73	57.55	57.38	57.20	57.02	56.84	56.66	56.48
59.6	58.72	58.54	58.37	58.19	58.01	57.83	57.66	57.48	57.30	57.12	56.94	56.76	56.58
59.7	58.82	58.64	58.47	58.29	58.11	57.93	57.76	57.58	57.40	57.22	57.04	56.86	56.68
59.8	58.92	58.75	58.57	58.39	58.21	58.04	57.86	57.68	57.50	57.32	57.14	56.96	56.78
59.9	59.02	58.85	58.67	58.49	58.31	58.14	57.96	57.78	57.60	57.42	57.24	57.06	56.88
60	59.12	58.95	58.77	58.59	58.42	58.24	58.06	57.88	57.70	57.52	57.35	57.17	56.99
60.1	59.22	59.05	58.87	58.69	58.52	58.34	58.16	57.98	57.80	57.63	57.45	57.27	57.09
60.2	59.32	59.15	58.97	58.79	58.62	58.44	58.26	58.08	57.91	57.73	57.55	57.37	57.19
60.3	59.42	59.25	59.07	58.90	58.72	58.54	58.36	58.19	58.01	57.83	57.65	57.47	57.29
60.4	59.53	59.35	59.17	59.00	58.82	58.64	58.46	58.29	58.11	57.93	57.75	57.57	57.39
60.5	59.63	59.45	59.27	59.10	58.92	58.74	58.57	58.39	58.21	58.03	57.85	57.67	57.50
60.6	59.73	59.55	59.37	59.20	59.02	58.84	58.67	58.49	58.31	58.13	57.96	57.78	57.60
60.7	59.83	59.65	59.48	59.30	59.12	58.95	58.77	58.59	58.41	58.24	58.06	57.88	57.70
60.8	59.93	59.75	59.58	59.40	59.22	59.05	58.87	58.69	58.51	58.34	58.16	57.98	57.80
60.9	60.03	59.85	59.68	59.50	59.32	59.15	58.97	58.79	58.62	58.44	58.26	58.08	57.90
61	60.13	59.95	59.78	59.60	59.43	59.25	59.07	58.89	58.72	58.54	58.36	58.18	58.00
61.1	60.23	60.05	59.88	59.70	59.53	59.35	59.17	59.00	58.82	58.64	58.46	58.29	58.11
61.2	60.33	60.15	59.98	59.80	59.63	59.45	59.27	59.10	58.92	58.74	58.56	58.39	58.21
61.3	60.43	60.26	60.08	59.90	59.73	59.55	59.38	59.20	59.02	58.84	58.67	58.49	58.31
61.4	60.53	60.36	60.18	60.01	59.83	59.65	59.48	59.30	59.12	58.95	58.77	58.59	58.41
61.5	60.63	60.46	60.28	60.11	59.93	59.75	59.58	59.40	59.22	59.05	58.87	58.69	58.51
61.6	60.73	60.56	60.38	60.21	60.03	59.86	59.68	59.50	59.33	59.15	58.97	58.79	58.62
61.7	60.83	60.66	60.48	60.31	60.13	59.96	59.78	59.60	59.43	59.25	59.07	58.90	58.72
61.8	60.93	60.76	60.58	60.41	60.23	60.06	59.88	59.71	59.53	59.35	59.17	59.00	58.82
61.9	61.03	60.86	60.68	60.51	60.33	60.16	59.98	59.81	59.63	59.45	59.28	59.10	58.92

(续)

单位为%vol

℃

29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
54.36	54.18	54.00	53.81	53.63	53.45	53.26	53.08	52.89	52.71	52.53	52.34	52.16
54.46	54.28	54.10	53.91	53.73	53.55	53.37	53.18	53.00	52.81	52.63	52.45	52.26
54.56	54.38	54.20	54.02	53.83	53.65	53.47	53.28	53.10	52.92	52.73	52.55	52.36
54.67	54.48	54.30	54.12	53.94	53.75	53.57	53.39	53.20	53.02	52.84	52.65	52.47
54.77	54.59	54.40	54.22	54.04	53.86	53.67	53.49	53.31	53.12	52.94	52.75	52.57
54.87	54.69	54.51	54.32	54.14	53.96	53.78	53.59	53.41	53.23	53.04	52.86	52.67
54.97	54.79	54.61	54.43	54.24	54.06	53.88	53.69	53.51	53.33	53.14	52.96	52.78
55.07	54.89	54.71	54.53	54.35	54.16	53.98	53.80	53.61	53.43	53.25	53.06	52.88
55.18	54.99	54.81	54.63	54.45	54.27	54.08	53.90	53.72	53.53	33.35	53.17	52.98
55.28	55.10	54.91	54.73	54.55	54.37	54.19	54.00	53.82	53.64	53.45	53.27	53.09
55.38	55.20	55.02	54.84	54.65	54.47	54.29	54.11	53.92	53.74	53.56	53.37	53.19
55.48	55.30	55.12	54.94	54.76	54.57	54.39	54.21	54.03	53.84	53.66	53.48	53.29
55.58	55.40	55.22	55.04	54.86	54.68	54.49	54.31	54.13	53.94	53.76	53.58	53.39
55.69	55.50	55.32	55.14	54.96	54.78	54.60	54.41	54.23	54.05	53.86	53.68	53.50
55.79	55.61	55.43	55.24	55.06	54.88	54.70	54.52	54.33	54.15	53.97	53.78	53.60
55.89	55.71	55.53	55.35	55.16	54.98	54.80	54.62	54.44	54.25	54.07	53.89	53.70
55.99	55.81	55.63	55.45	55.27	55.09	54.90	54.72	54.54	54.36	54.17	53.99	53.81
56.09	55.91	55.73	55.55	55.37	55.19	55.01	54.82	54.64	54.46	54.28	54.09	53.91
56.20	56.01	55.83	55.65	55.47	55.29	55.11	54.93	54.74	54.56	54.38	54.20	54.01
56.30	56.12	55.94	55.76	55.57	55.39	55.21	55.03	54.85	54.66	54.48	54.30	54.12
56.40	56.22	56.04	55.86	55.68	55.49	55.31	55.13	54.95	54.77	54.58	54.40	54.22
56.50	56.32	56.14	55.96	55.78	55.60	55.42	55.23	55.05	54.87	54.69	54.51	54.32
56.60	56.42	56.24	56.06	55.88	55.70	55.52	55.34	55.15	54.97	54.79	54.61	54.43
56.70	56.52	56.34	56.16	55.98	55.80	55.62	55.44	55.26	55.08	54.89	54.71	54.53
56.81	56.63	56.45	56.27	56.09	55.90	55.72	55.54	55.36	55.18	55.00	54.81	54.63
56.91	56.73	56.55	56.37	56.19	56.01	55.83	55.64	55.46	55.28	55.10	54.92	54.73
57.01	56.83	56.65	56.47	56.29	56.11	55.93	55.75	55.57	55.38	55.20	55.02	54.84
57.11	56.93	56.75	56.57	56.39	56.21	56.03	55.85	55.67	55.49	55.30	55.12	54.94
57.21	57.03	56.85	56.67	56.49	56.31	56.13	55.95	55.77	55.59	55.41	55.23	55.04
57.32	57.14	56.96	56.78	56.60	56.42	56.24	56.05	55.87	55.69	55.51	55.33	55.15
57.42	57.24	57.06	56.88	56.70	56.52	56.34	56.16	55.98	55.79	55.61	55.43	55.25
57.52	57.34	57.16	56.98	56.80	56.62	56.44	56.26	56.08	55.90	55.72	55.53	55.35
57.62	57.44	57.26	57.08	56.90	56.72	56.54	56.36	56.18	56.00	55.82	55.64	55.46
57.72	57.54	57.37	57.19	57.01	56.83	56.65	56.46	56.28	56.10	55.92	55.74	55.56
57.83	57.65	57.47	57.29	57.11	56.93	56.75	56.57	56.39	56.21	56.02	55.84	55.66
57.93	57.75	57.57	57.39	57.21	57.03	56.85	56.67	56.49	56.31	56.13	55.95	55.77
58.03	57.85	57.67	57.49	57.31	57.13	56.95	56.77	56.59	56.41	56.23	56.05	55.87
58.13	57.95	57.77	57.59	57.42	57.24	57.06	56.88	56.69	56.51	56.33	56.15	55.97
58.23	58.05	57.88	57.70	57.52	57.34	57.16	56.98	56.80	56.62	56.44	56.26	56.07
58.34	58.16	57.98	57.80	57.62	57.44	57.26	57.08	56.90	56.72	56.54	56.36	56.18
58.44	58.26	58.08	57.90	57.72	57.54	57.36	57.18	57.00	56.82	56.64	56.46	56.28
58.54	58.36	58.18	58.00	57.82	57.64	57.47	57.29	57.11	56.93	56.74	56.56	56.38
58.64	58.46	58.28	58.11	57.93	57.75	57.57	57.39	57.21	57.03	56.85	56.67	56.49
58.74	58.56	58.39	58.21	58.03	57.85	57.67	57.49	57.31	57.13	56.95	56.77	56.59



表 B. 2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
62	61.13	60.96	60.79	60.61	60.44	60.26	60.08	59.91	59.73	59.55	59.38	59.20	59.02
62.1	61.23	61.06	60.89	60.71	60.54	60.36	60.19	60.01	59.83	59.66	59.48	59.30	59.12
62.2	61.34	61.16	60.99	60.81	60.64	60.46	60.29	60.11	59.93	59.76	59.58	59.40	59.23
62.3	61.44	61.26	61.09	60.91	60.74	60.56	60.39	60.21	60.04	59.86	59.68	59.51	59.33
62.4	61.54	61.36	61.19	61.01	60.84	60.66	60.49	60.31	60.14	59.96	59.78	59.61	59.43
62.5	61.64	61.46	61.29	61.11	60.94	60.77	60.59	60.41	60.24	60.06	59.89	59.71	59.53
62.6	61.74	61.56	61.39	61.22	61.04	60.87	60.69	60.52	60.34	60.16	59.99	59.81	59.63
62.7	61.84	61.66	61.49	61.32	61.14	60.97	60.79	60.62	60.44	60.27	60.09	59.91	59.74
62.8	61.94	61.77	61.59	61.42	61.24	61.07	60.89	60.72	60.54	60.37	60.19	60.01	59.84
62.9	62.04	61.87	61.69	61.52	61.34	61.17	60.99	60.82	60.64	60.47	60.29	60.12	59.94
63	62.14	61.97	61.79	61.62	61.45	61.27	61.10	60.92	60.75	60.57	60.39	60.22	60.04
63.1	62.24	62.07	61.89	61.72	61.55	61.37	61.20	61.02	60.85	60.67	60.50	60.32	60.14
63.2	62.34	62.17	61.99	61.82	61.65	61.47	61.30	61.12	60.95	60.77	60.60	60.42	60.24
63.3	62.44	62.27	62.10	61.92	61.75	61.57	61.40	61.22	61.05	60.87	60.70	60.52	60.35
63.4	62.54	62.37	62.20	62.02	61.85	61.68	61.50	61.33	61.15	60.98	60.80	60.62	60.45
63.5	62.64	62.47	62.30	62.12	61.95	61.78	61.60	61.43	61.25	61.08	60.90	60.73	60.55
63.6	62.74	62.57	62.40	62.22	62.05	61.88	61.70	61.53	61.35	61.18	61.00	60.83	60.65
63.7	62.84	62.67	62.50	62.33	62.15	61.98	61.80	61.63	61.46	61.28	61.11	60.93	60.75
63.8	62.94	62.77	62.60	62.43	62.25	62.08	61.91	61.73	61.56	61.38	61.21	61.03	60.86
63.9	63.04	62.87	62.70	62.53	62.35	62.18	62.01	61.83	61.66	61.48	61.31	61.13	60.96
64	63.15	62.97	62.80	62.63	62.46	62.28	62.11	61.93	61.76	61.59	61.41	61.24	61.06
64.1	63.25	63.07	62.90	62.73	62.56	62.38	62.21	62.04	61.86	61.69	61.51	61.34	61.16
64.2	63.35	63.17	63.00	62.83	62.66	62.48	62.31	62.14	61.96	61.79	61.61	61.44	61.26
64.3	63.45	63.28	63.10	62.93	62.76	62.59	62.41	62.24	62.06	61.89	61.72	61.54	61.37
64.4	63.55	63.38	63.20	63.03	62.86	62.69	62.51	62.34	62.17	61.99	61.82	61.64	61.47
64.5	63.65	63.48	63.30	63.13	62.96	62.79	62.61	62.44	62.27	62.09	61.92	61.74	61.57
64.6	63.75	63.58	63.41	63.23	63.06	62.89	62.72	62.54	62.37	62.19	62.02	61.85	61.67
64.7	63.85	63.68	63.51	63.33	63.16	62.99	62.82	62.64	62.47	62.30	62.12	61.95	61.77
64.8	63.95	63.78	63.61	63.44	63.26	63.09	62.92	62.74	62.57	62.40	62.22	62.05	61.87
64.9	64.05	63.88	63.71	63.54	63.36	63.19	63.02	62.85	62.67	62.50	62.33	62.15	61.98
65	64.15	63.98	63.81	63.64	63.47	63.29	63.12	62.95	62.77	62.60	62.43	62.25	62.08
65.1	64.25	64.08	63.91	63.74	63.57	63.39	63.22	63.05	62.88	62.70	62.53	62.35	62.18
65.2	64.35	64.18	64.01	63.84	63.67	63.50	63.32	63.15	62.98	62.80	62.63	62.46	62.28
65.3	64.45	64.28	64.11	63.94	63.77	63.60	63.42	63.25	63.08	62.91	62.73	62.56	62.38
65.4	64.55	64.38	64.21	64.04	63.87	63.70	63.53	63.35	63.18	63.01	62.83	62.66	62.49
65.5	64.65	64.48	64.31	64.14	63.97	63.80	63.63	63.45	63.28	63.11	62.94	62.76	62.59
65.6	64.75	64.58	64.41	64.24	64.07	63.90	63.73	63.56	63.38	63.21	63.04	62.86	62.69
65.7	64.85	64.68	64.51	64.34	64.17	64.00	63.83	63.66	63.48	63.31	63.14	62.97	62.79
65.8	64.96	64.79	64.62	64.44	64.27	64.10	63.93	63.76	63.59	63.41	63.24	63.07	62.89
65.9	65.06	64.89	64.72	64.55	64.37	64.20	64.03	63.86	63.69	63.51	63.34	63.17	63.00
66	65.16	64.99	64.82	64.65	64.48	64.30	64.13	63.96	63.79	63.62	63.44	63.27	63.10
66.1	65.26	65.09	64.92	64.75	64.58	64.41	64.23	64.06	63.89	63.72	63.55	63.37	63.20
66.2	65.36	65.19	65.02	64.85	64.68	64.51	64.34	64.16	63.99	63.82	63.65	63.47	63.30
66.3	65.46	65.29	65.12	64.95	64.78	64.61	64.44	64.27	64.09	63.92	63.75	63.58	63.40

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
58.85	58.67	58.49	58.31	58.13	57.95	57.77	57.59	57.41	57.23	57.05	56.87	56.69
58.95	58.77	58.59	58.41	58.23	58.05	57.88	57.70	57.52	57.34	57.16	56.98	56.80
59.05	58.87	58.69	58.51	58.34	58.16	57.98	57.80	57.62	57.44	57.26	57.08	56.90
59.15	58.97	58.79	58.62	58.44	58.26	58.08	57.90	57.72	57.54	57.36	57.18	57.00
59.25	59.08	58.90	58.72	58.54	58.36	58.18	58.00	57.82	57.64	57.46	57.28	57.10
59.35	59.18	59.00	58.82	58.64	58.46	58.29	58.11	57.93	57.75	57.57	57.39	57.21
59.46	59.28	59.10	58.92	58.75	58.57	58.39	58.21	58.03	57.85	57.67	57.49	57.31
59.56	59.38	59.20	59.03	58.85	58.67	58.49	58.31	58.13	57.95	57.77	57.59	57.41
59.66	59.48	59.31	59.13	58.95	58.77	58.59	58.41	58.23	58.06	57.88	57.70	57.52
59.76	59.59	59.41	59.23	59.05	58.87	58.70	58.52	58.34	58.16	57.98	57.80	57.62
59.86	59.69	59.51	59.33	59.15	58.98	58.80	58.62	58.44	58.26	58.08	57.90	57.72
59.97	59.79	59.61	59.43	59.26	59.08	58.90	58.72	58.54	58.36	58.18	58.01	57.83
60.07	59.89	59.71	59.54	59.36	59.18	59.00	58.82	58.65	58.47	58.29	58.11	57.93
60.17	59.99	59.82	59.64	59.46	59.28	59.11	58.93	58.75	58.57	58.39	58.21	58.03
60.27	60.10	59.92	59.74	59.56	59.39	59.21	59.03	58.85	58.67	58.49	58.32	58.13
60.37	60.20	60.02	59.84	59.67	59.49	59.31	59.13	58.95	58.78	58.60	58.43	58.24
60.48	60.30	60.12	59.95	59.77	59.59	59.41	59.23	59.06	58.88	58.70	58.52	58.34
60.58	60.40	60.22	60.05	59.87	59.69	59.52	59.34	59.16	58.98	58.80	58.62	58.44
60.68	60.50	60.33	60.15	59.97	59.80	59.62	59.44	59.26	59.08	58.90	58.73	58.55
60.78	60.61	60.43	60.25	60.08	59.90	59.72	59.54	59.36	59.19	59.01	58.83	58.65
60.88	60.71	60.53	60.35	60.18	60.00	59.82	59.65	59.47	59.29	59.11	58.93	58.75
60.99	60.81	60.63	60.46	60.28	60.10	59.93	59.75	59.57	59.39	59.21	59.04	58.86
61.09	60.91	60.74	60.56	60.38	60.21	60.03	59.85	59.67	59.49	59.32	59.14	58.96
61.19	61.01	60.84	60.66	60.48	60.31	60.13	59.95	59.78	59.60	59.42	59.24	59.06
61.29	61.12	60.94	60.76	60.59	60.41	60.23	60.06	59.88	59.70	59.52	59.34	59.17
61.39	61.22	61.04	60.87	60.69	60.51	60.34	60.16	59.98	59.80	59.63	59.45	59.27
61.50	61.32	61.14	60.97	60.79	60.62	60.44	60.26	60.08	59.91	59.73	59.55	59.37
61.60	61.42	61.25	61.07	60.89	60.72	60.54	60.36	60.19	60.01	59.83	59.65	59.47
61.70	61.52	61.35	61.17	61.00	60.82	60.64	60.47	60.29	60.11	59.93	59.76	59.58
61.80	61.63	61.45	61.28	61.10	60.92	60.75	60.57	60.39	60.21	60.04	59.86	59.68
61.90	61.73	61.55	61.38	61.20	61.03	60.85	60.67	60.49	60.32	60.14	59.96	59.78
62.01	61.83	61.66	61.48	61.30	61.13	60.95	60.77	60.60	60.42	60.24	60.07	59.89
62.11	61.93	61.76	61.58	61.41	61.23	61.05	60.88	60.70	60.52	60.35	60.17	59.99
62.21	62.03	61.86	61.68	61.51	61.33	61.16	60.98	60.80	60.63	60.45	60.27	60.09
62.31	62.14	61.96	61.79	61.61	61.44	61.26	61.08	60.91	60.73	60.55	60.37	60.20
62.41	62.24	62.06	61.89	61.71	61.54	61.36	61.19	61.01	60.83	60.65	60.48	60.30
62.52	62.34	62.17	61.99	61.82	61.64	61.46	61.29	61.11	60.93	60.76	60.58	60.40
62.62	62.44	62.27	62.09	61.92	61.74	61.57	61.39	61.21	61.04	60.86	60.68	60.51
62.72	62.55	62.37	62.20	62.02	61.85	61.67	61.49	61.32	61.14	60.96	60.79	60.61
62.82	62.65	62.47	62.30	62.12	61.95	61.77	61.60	61.42	61.24	61.07	60.89	60.71
62.92	62.75	62.58	62.40	62.23	62.05	61.87	61.70	61.52	61.35	61.17	60.99	60.82
63.03	62.85	62.68	62.50	62.33	62.15	61.98	61.80	61.63	61.45	61.27	61.10	60.92
63.13	62.95	62.78	62.61	62.43	62.26	62.08	61.90	61.73	61.55	61.38	61.20	61.02
63.23	63.06	62.88	62.71	62.53	62.36	62.18	62.01	61.83	61.66	61.48	61.30	61.13

表 B.2

酒精计浓度/ (%vol)	温度/												
	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27	27.5	28	28.5
66.4	65.56	65.39	65.22	65.05	64.88	64.71	64.54	64.37	64.19	64.02	63.85	63.68	63.50
66.5	65.66	65.49	65.32	65.15	64.98	64.81	64.64	64.47	64.30	64.12	63.95	63.78	63.61
66.6	65.76	65.59	65.42	65.25	65.08	64.91	64.74	64.57	64.40	64.23	64.05	63.88	63.71
66.7	65.86	65.69	65.52	65.35	65.18	65.01	64.84	64.67	64.50	64.33	64.16	63.98	63.81
66.8	65.96	65.79	65.62	65.45	65.28	65.11	64.94	64.77	64.60	64.43	64.26	64.09	63.91
66.9	66.06	65.89	65.72	65.55	65.38	65.21	65.04	64.87	64.70	64.53	64.36	64.19	64.01
67	66.16	65.99	65.82	65.66	65.49	65.32	65.15	64.98	64.80	64.63	64.46	64.29	64.12
67.1	66.26	66.09	65.93	65.76	65.59	65.42	65.25	65.08	64.91	64.73	64.56	64.39	64.22
67.2	66.36	66.20	66.03	65.86	65.69	65.52	65.35	65.18	65.01	64.84	64.66	64.49	64.32
67.3	66.46	66.30	66.13	65.96	65.79	65.62	65.45	65.28	65.11	64.94	64.77	64.59	64.42
67.4	66.56	66.40	66.23	66.06	65.89	65.72	65.55	65.38	65.21	65.04	64.87	64.70	64.52
67.5	66.67	66.50	66.33	66.16	65.99	65.82	65.65	65.48	65.31	65.14	64.97	64.80	64.63
67.6	66.77	66.60	66.43	66.26	66.09	65.92	65.75	65.58	65.41	65.24	65.07	64.90	64.53
67.7	66.87	66.70	66.53	66.36	66.19	66.02	65.85	65.68	65.51	65.34	65.17	65.00	64.83
67.8	66.97	66.80	66.63	66.46	66.29	66.13	65.96	65.79	65.62	65.45	65.28	65.10	64.93
67.9	67.07	66.90	66.73	66.56	66.40	66.23	66.06	65.89	65.72	65.55	65.38	65.21	65.03
68	67.17	67.00	66.83	66.67	66.50	66.33	66.16	65.99	65.82	65.65	65.48	65.31	65.14
68.1	67.27	67.10	66.93	66.77	66.60	66.43	66.26	66.09	65.92	65.75	65.58	65.41	65.24
68.2	67.37	67.20	67.03	66.87	66.70	66.53	66.36	66.19	66.02	65.85	65.68	65.51	65.34
68.3	67.47	67.30	67.14	66.97	66.80	66.63	66.46	66.29	66.12	65.95	65.78	65.61	65.44
68.4	67.57	67.40	67.24	67.07	66.90	66.73	66.56	66.39	66.23	66.06	65.89	65.72	65.54
68.5	67.67	67.50	67.34	67.17	67.00	66.83	66.67	66.50	66.33	66.16	65.99	65.82	65.65
68.6	67.77	67.61	67.44	67.27	67.10	66.94	66.77	66.60	66.43	66.26	66.09	65.92	65.75
68.7	67.87	67.71	67.54	67.37	67.20	67.04	66.87	66.70	66.53	66.36	66.19	66.02	65.85
68.8	67.97	67.81	67.64	67.47	67.31	67.14	66.97	66.80	66.63	66.46	66.29	66.12	65.95
68.9	68.07	67.91	67.74	67.57	67.41	67.24	67.07	66.90	66.73	66.56	66.39	66.22	66.05
69	68.17	68.01	67.84	67.67	67.51	67.34	67.17	67.00	66.83	66.67	66.50	66.33	66.16
69.1	68.28	68.11	67.94	67.78	67.61	67.44	67.27	67.11	66.94	66.77	66.60	66.43	66.26
69.2	68.38	68.21	68.04	67.88	67.71	67.54	67.37	67.21	67.04	66.87	66.70	66.53	66.36
69.3	68.48	68.31	68.14	67.98	67.81	67.64	67.48	67.31	67.14	66.97	66.80	66.63	66.46
69.4	68.58	68.41	68.25	68.08	67.91	67.74	67.58	67.41	67.24	67.07	66.90	66.73	66.56
69.5	68.68	68.51	68.35	68.18	68.01	67.85	67.68	67.51	67.34	67.17	67.01	66.84	66.67
69.6	68.78	68.61	68.45	68.28	68.11	67.95	67.78	67.61	67.44	67.28	67.11	66.94	66.77
69.7	68.88	68.71	68.55	68.38	68.22	68.05	67.88	67.71	67.55	67.38	67.21	67.04	66.87
69.8	68.98	68.81	68.65	68.48	68.32	68.15	67.98	67.82	67.65	67.48	67.31	67.14	66.97
69.9	69.08	68.91	68.75	68.58	68.42	68.25	68.08	67.92	67.75	67.58	67.41	67.24	67.08

(续)

单位为%vol

℃												
29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.5	35
63.33	63.16	62.98	62.81	62.64	62.46	62.29	62.11	61.93	61.76	61.58	61.41	61.23
63.43	63.26	63.09	62.91	62.74	62.56	62.39	62.21	62.04	61.86	61.69	61.51	61.33
63.54	63.36	63.19	63.01	62.84	62.67	62.49	62.32	62.14	61.96	61.79	61.61	61.44
63.64	63.46	63.29	63.12	62.94	62.77	62.59	62.42	62.24	62.07	61.89	61.72	61.54
63.74	63.57	63.39	63.22	63.05	62.87	62.70	62.52	62.35	62.17	61.99	61.82	61.64
63.84	63.67	63.50	63.32	63.15	62.97	62.80	62.62	62.45	62.27	62.10	61.92	61.75
63.94	63.77	63.60	63.42	63.25	63.08	62.90	62.73	62.55	62.38	62.20	62.02	61.85
64.05	63.87	63.70	63.53	63.35	63.18	63.00	62.83	62.65	62.48	62.30	62.13	61.95
64.15	63.98	63.80	63.63	63.46	63.28	63.11	62.93	62.76	62.58	62.41	62.23	62.05
64.25	64.08	63.90	63.73	63.56	63.38	63.21	63.04	62.86	62.69	62.51	62.33	62.16
64.35	64.18	64.01	63.83	63.66	63.49	63.31	63.14	62.96	62.79	62.61	62.44	62.26
64.45	64.28	64.11	63.94	63.76	63.59	63.42	63.24	63.07	62.89	62.72	62.54	62.36
64.56	64.38	64.21	64.04	63.87	63.69	63.52	63.34	63.17	62.99	62.82	62.64	62.47
64.66	64.49	64.31	64.14	63.97	63.79	63.62	63.45	63.27	63.10	62.92	62.75	62.57
64.76	64.59	64.42	64.24	64.07	63.90	63.72	63.55	63.38	63.20	63.03	62.85	62.67
64.86	64.69	64.52	64.35	64.17	64.00	63.83	63.65	63.48	63.30	63.13	62.95	62.78
64.96	64.79	64.62	64.45	64.28	64.10	63.93	63.76	63.58	63.41	63.23	63.06	62.88
65.07	64.90	64.72	64.55	64.38	64.21	64.03	63.86	63.68	63.51	63.34	63.16	62.98
65.17	65.00	64.83	64.65	64.48	64.31	64.13	63.96	63.79	63.61	63.44	63.26	63.09
65.27	65.10	64.93	64.76	64.58	64.41	64.24	64.06	63.89	63.72	63.54	63.37	63.19
65.37	65.20	65.03	64.86	64.69	64.51	64.34	64.17	63.99	63.82	63.64	63.47	63.30
65.48	65.30	65.13	64.96	64.79	64.62	64.44	64.27	64.10	63.92	63.75	63.57	63.40
65.58	65.41	65.24	65.06	64.89	64.72	64.55	64.37	64.20	64.03	63.85	63.68	63.50
65.68	65.51	65.34	65.17	64.99	64.82	64.65	64.48	64.30	64.13	63.95	63.78	63.61
65.78	65.61	65.44	65.27	65.10	64.92	64.75	64.58	64.41	64.23	64.06	63.88	63.71
65.88	65.71	65.54	65.37	65.20	65.03	64.85	64.68	64.51	64.33	64.16	63.99	63.81
65.99	65.82	65.64	65.47	65.30	65.13	64.96	64.78	64.61	64.44	64.26	64.09	63.92
66.09	65.92	65.75	65.58	65.40	65.23	65.06	64.89	64.71	64.54	64.37	64.19	64.02
66.19	66.02	65.85	65.68	65.51	65.33	65.16	64.99	64.82	64.64	64.47	64.30	64.12
66.29	66.12	65.95	65.78	65.61	65.44	65.27	65.09	64.92	64.75	64.57	64.40	64.23
66.40	66.22	66.05	65.88	65.71	65.54	65.37	65.20	65.02	64.85	64.68	64.50	64.33
66.50	66.33	66.16	65.99	65.81	65.64	65.47	65.30	65.13	64.95	64.78	64.61	64.43
66.60	66.43	66.26	66.09	65.92	65.75	65.57	65.40	65.23	65.06	64.88	64.71	64.54
66.70	66.53	66.36	66.19	66.02	65.85	65.68	65.51	65.33	65.16	64.99	64.81	64.64
66.80	66.63	66.46	66.29	66.12	65.95	65.78	65.61	65.44	65.26	65.09	64.92	64.74
66.91	66.74	66.57	66.40	66.23	66.05	65.88	65.71	65.54	65.37	65.19	65.02	64.85