## DISSOCIATION CONSTANTS OF ORGANIC ACIDS AND BASES

This table lists the dissociation (ionization) constants of over 1070 organic acids, bases, and amphoteric compounds. All data apply to dilute aqueous solutions and are presented as values of  $pK_a$ , which is defined as the negative of the logarithm of the equilibrium constant  $K_a$  for the reaction

$$HA \rightleftharpoons H^+ + A^-$$

i.e.,

$$K_{a} = [H^{+}][A^{-}]/[HA]$$

where  $[H^+]$ , etc. represent the concentrations of the respective species in mol/L. It follows that  $pK_a = pH + log[HA] - log[A^-]$ , so that a solution with 50% dissociation has pH equal to the  $pK_a$  of the acid

Data for bases are presented as  $pK_a$  values for the conjugate acid, i.e., for the reaction

$$BH^+ \rightleftharpoons H^+ + B$$

In older literature, an ionization constant  $K_b$  was used for the reaction B + H<sub>2</sub>O  $\rightleftharpoons$  BH<sup>+</sup> + OH<sup>-</sup>. This is related to  $K_a$  by

$$pK_a + pK_b = pK_{water} = 14.00$$
 (at 25°C)

Compounds are listed by molecular formula in Hill order.

## References

- 1. Perrin, D. D., Dissociation Constants of Organic Bases in Aqueous Solution, Butterworths, London, 1965; Supplement, 1972.
- 2. Serjeant, E. P., and Dempsey, B., *Ionization Constants of Organic Acids in Aqueous Solution*, Pergamon, Oxford, 1979.
- 3. Albert, A., "Ionization Constants of Heterocyclic Substances", in Katritzky, A. R., Ed., *Physical Methods in Heterocyclic Chemistry*, Academic Press, New York, 1963.
- Sober, H.A., Ed., CRC Handbook of Biochemistry, CRC Press, Boca Raton, FL, 1968.
- Perrin, D. D., Dempsey, B., and Serjeant, E. P., pK<sub>a</sub> Prediction for Organic Acids and Bases, Chapman and Hall, London, 1981.
- Albert, A., and Serjeant, E. P., The Determination of Ionization Constants, Third Edition, Chapman and Hall, London, 1984.
- Budavari, S., Ed., The Merck Index, Twelth Edition, Merck & Co., Whitehouse Station, NJ, 1996.

Mol. form.	Name	Step	t/°C	$pK_a$	Mol. form.	Name	Step	t/°C	$pK_a$
CHNO	Cyanic acid	_	25	3.7	C <sub>2</sub> H <sub>5</sub> NO	Acetamide	_	25	15.1
CH <sub>2</sub> N <sub>2</sub>	Cyanamide		29	1.1	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>	Acetohydroxamic acid			8.70
CH <sub>2</sub> O	Formaldehyde		25	13.27	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>	Nitroethane		25	8.46
$CH_2O_2$	Formic acid		25	3.75	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>	Glycine	1	25	2.35
CH <sub>3</sub> NO <sub>2</sub>	Nitromethane		25	10.21			2	25	9.78
CH <sub>3</sub> NS <sub>2</sub>	Carbamodithioic acid		25	2.95	$C_2H_6N_2$	Ethanimidamide		25	12.1
$CH_4N_2O$	Urea		25	0.10	C <sub>2</sub> H <sub>6</sub> O	Ethanol		25	15.5
$CH_4N_2S$	Thiourea		25	-1	C <sub>2</sub> H <sub>6</sub> OS	2-Mercaptoethanol		25	9.72
$CH_4O$	Methanol		25	15.5	$C_2H_6O_2$	Ethyleneglycol		25	15.1
$CH_4S$	Methanethiol		25	10.33	$C_2H_7AsO_2$	Dimethylarsinic acid	1	25	1.57
CH₅N	Methylamine		25	10.66			2	25	6.27
CH₅NO	O-Methylhydroxylamine			12.5	C <sub>2</sub> H <sub>7</sub> N	Ethylamine		25	10.65
CH <sub>5</sub> N <sub>3</sub>	Guanidine		25	13.6	C <sub>2</sub> H <sub>7</sub> N	Dimethylamine		25	10.73
C <sub>2</sub> HCl <sub>3</sub> O	Trichloroacetaldehyde		25	10.04	C <sub>2</sub> H <sub>7</sub> NO	Ethanolamine		25	9.50
C2HCl3O2	Trichloroacetic acid		20	0.66	C <sub>2</sub> H <sub>7</sub> NO <sub>3</sub> S	2-Aminoethanesulfonic	1	25	1.5
$C_2HF_3O_2$	Trifluoroacetic acid		25	0.52		acid	2	25	9.06
$C_2H_2Cl_2O_2$	Dichloroacetic acid		25	1.35	C <sub>2</sub> H <sub>7</sub> NS	Cysteamine	1	25	8.27
$C_2H_2O_3$	Glyoxylic acid		25	3.18			2	25	10.53
$C_2H_2O_4$	Oxalic acid	1	25	1.25	$C_2H_7N_5$	Biguanide	1		11.52
		2	25	3.81			2		2.93
$C_2H_3BrO_2$	Bromoacetic acid		25	2.90	$C_2H_8N_2$	1,2-Ethanediamine	1	25	9.92
C <sub>2</sub> H <sub>3</sub> ClO <sub>2</sub>	Chloroacetic acid		25	2.87			2	25	6.86
$C_2H_3Cl_3O$	2,2,2-Trichloroethanol		25	12.24	$C_2H_8O_7P_2$	1-Hydroxy-1,1-	1		1.35
$C_2H_3FO_2$	Fluoroacetic acid		25	2.59		diphosphonoethane	2		2.87
$C_2H_3F_3O$	2,2,2-Trifluoroethanol		25	12.37			3		7.03
$C_2H_3IO_2$	Iodoacetic acid		25	3.18			4		11.3
$C_2H_3NO_4$	Nitroacetic acid		24	1.48	$C_3H_2O_2$	2-Propynoic acid		25	1.84
$C_2H_3N_3$	1H-1,2,3-Triazole		20	1.17	C <sub>3</sub> H <sub>3</sub> NO	Oxazole		33	0.8
$C_2H_3N_3$	1H-1,2,4-Triazole		20	2.27	C <sub>3</sub> H <sub>3</sub> NO	Isoxazole		25	-2.0
$C_2H_4N_2$	Aminoacetonitrile		25	5.34	$C_3H_3NO_2$	Cyanoacetic acid		25	2.47
$C_2H_4O$	Acetaldehyde		25	13.57	C <sub>3</sub> H <sub>3</sub> NS	Thiazole		25	2.52
$C_2H_4OS$	Thioacetic acid		25	3.33	C <sub>3</sub> H <sub>3</sub> N <sub>3</sub> O <sub>3</sub>	Cyanuric acid	1		6.88
$C_2H_4O_2$	Acetic acid		25	4.756			2		11.40
$C_2H_4O_2S$	Thioglycolic acid		25	3.68			3		13.5
$C_2H_4O_3$	Glycolic acid		25	3.83	$C_3H_4N_2$	1 <i>H-</i> Pyrazole		25	2.49
$C_2H_5N$	Ethyleneimine		25	8.04	$C_3H_4N_2$	Imidazole		25	6.99

Mol. form.	Name	Step	t/°C	$pK_a$	Mol. form.	Name	Step	t/°C	$pK_a$
$C_3H_4N_2S$	2-Thiazolamine		20	5.36	$C_4H_4N_4O_2$	5-Nitropyrimidinamine		20	0.35
$C_3H_4O$	Propargyl alcohol		25	13.6	$C_4H_4O_2$	2-Butynoic acid		25	2.62
$C_3H_4O_2$	Acrylic acid		25	4.25	$C_4H_4O_4$	Maleic acid	1	25	1.92
$C_3H_4O_3$	Pyruvic acid		25	2.39	a		2	25	6.23
$C_3H_4O_4$	Malonic acid	1	25	2.85	$C_4H_4O_4$	Fumaric acid	1	25	3.02
GH O		2	25	5.70	au o	0.1	2	25	4.38
$C_3H_4O_5$	Hydroxypropanedioic	1		2.42	$C_4H_4O_5$	Oxaloacetic acid	1	25	2.55
CHRO	acid	2	0.5	4.54			2	25	4.37
C <sub>3</sub> H <sub>5</sub> BrO <sub>2</sub>	3-Bromopropanoic acid		25	4.00	CHN	D 1	3	25	13.03
C <sub>3</sub> H <sub>5</sub> ClO <sub>2</sub>	2-Chloropropanoic acid		25	2.83	C <sub>4</sub> H <sub>5</sub> N	Pyrrole		25	-3.8
C <sub>3</sub> H <sub>5</sub> ClO <sub>2</sub>	3-Chloropropanoic acid		25	3.98	C <sub>4</sub> H <sub>5</sub> NO <sub>2</sub>	Succinimide		25	9.62
$C_3H_6N_2$	3-Aminopropanenitrile		20	7.80	$C_4H_5N_3$	2-Pyrimidinamine		20	3.45
$C_3H_6N_6$	1,3,5-Triazine-2,4,6-		25	5.00	C <sub>4</sub> H <sub>5</sub> N <sub>3</sub>	4-Pyrimidinamine	1	20	5.71
CHO	triamine		25	155	C <sub>4</sub> H <sub>5</sub> N <sub>3</sub> O	Cytosine	1 2		4.60 12.16
C <sub>3</sub> H <sub>6</sub> O	Allyl alcohol		25 25	15.5 4.87	CHNO		2		7.6
$C_3H_6O_2$	Propanoic acid (Methylthio)acetic acid		25 25	3.66	$C_4H_5N_3O_2$	6-Methyl-1,2,4-triazine- 3,5(2H,4H)-dione			7.6
$C_3H_6O_2S$	Lactic acid		25 25	3.86	CHN	1-Methylimidazol		25	6.95
$C_3H_6O_3$			25 25	4.51	$C_4H_6N_2$	Allantoin		25 25	8.96
$C_3H_6O_3$	3-Hydroxypropanoic acid Glyceric acid		25 25	3.52	$C_4H_6N_4O_3$	Acetazolamide		23	7.2
$C_3H_6O_4$	Allylamine		25 25	9.49	$C_4H_6N_4O_3S_2$	trans-Crotonic acid		25	4.69
C <sub>3</sub> H <sub>7</sub> N C <sub>3</sub> H <sub>7</sub> N	Azetidine		25 25	11.29	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	3-Butenoic acid		25 25	4.34
C <sub>3</sub> H <sub>2</sub> NO	2-Propanone oxime		25	12.42	$C_4H_6O_2$ $C_4H_6O_2$	Cyclopropanecarboxylic acid		25	4.83
J /	<i>L</i> -Alanine	1	25	2.34	$C_4H_6O_3$	2-Oxobutanoic acid		25	2.50
$C_3H_7NO_2$	L-Aldinie	2	25	9.87	$C_4H_6O_3$ $C_4H_6O_3$	Acetoacetic acid		25	3.6
C <sub>3</sub> H <sub>2</sub> NO <sub>2</sub>	<b>β</b> -Alanine	1	25	3.55	$C_4H_6O_4$	Succinic acid	1	25	4.21
$C_3^{11}_7^{11}C_2$	p-ruanine	2	25	10.24	C <sub>4</sub> 11 <sub>6</sub> O <sub>4</sub>	Succinic acid	2	25	5.64
C <sub>3</sub> H <sub>2</sub> NO <sub>2</sub>	Sarcosine	1	25	2.21	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub>	Methylmalonic acid	1	25	3.07
$C_3$ 11 $_7$ 1 $C_2$	Sarcosine	2	25	10.1	C <sub>4</sub> 11 <sub>6</sub> C <sub>4</sub>	Wietnymaionie acid	2	25	5.76
C <sub>3</sub> H <sub>2</sub> NO <sub>2</sub> S	L-Cysteine	1	25	1.5	C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>	Malic acid	1	25	3.40
O <sub>3</sub> 11 <sub>7</sub> 11O <sub>2</sub> 0	2 Systeme	2	25	8.7	41605	White deld	2	25	5.11
		3	25	10.2	C <sub>4</sub> H <sub>6</sub> O <sub>6</sub>	DL-Tartaric acid	1	25	3.03
$C_3H_7NO_3$	L-Serine	1	25	2.19	4-6-6		2	25	4.37
-373		2	25	9.21	C <sub>4</sub> H <sub>6</sub> O <sub>6</sub>	meso-Tartaric acid	1	25	3.17
C <sub>3</sub> H <sub>2</sub> NO <sub>5</sub> S	DL-Cysteic acid	1	25	1.3	4 6 6		2	25	4.91
3 / 5	,	2	25	1.9	$C_4H_6O_6$	L-Tartaric acid	1	25	2.98
		3	25	8.70	4 6 6		2	25	4.34
$C_3H_7N_3O_2$	Glycocyamine		25	2.82	C <sub>4</sub> H <sub>6</sub> O <sub>8</sub>	Dihydroxytartaric acid		25	1.92
$C_3H_8O_2$	Ethylene glycol		25	14.8	C <sub>4</sub> H <sub>7</sub> ClO <sub>2</sub>	2-Chlorobutanoic acid			2.86
3 6 2	monomethyl ether				$C_4^{\dagger}H_7^{\prime}ClO_2^{\prime}$	3-Chlorobutanoic acid			4.05
$C_3H_8O_3$	Glycerol		25	14.15	$C_4^{\dagger}H_7^{\prime}ClO_2^{\prime}$	4-Chlorobutanoic acid			4.52
$C_3H_9N$	Propylamine		25	10.54	C <sub>4</sub> H <sub>7</sub> NO <sub>2</sub>	4-Cyanobutanoic acid		25	2.42
$C_3H_9N$	Isopropylamine		25	10.63	C <sub>4</sub> H <sub>7</sub> NO <sub>3</sub>	N-Acetylglycine		25	3.67
$C_3H_9N$	Trimethylamine		25	9.80	C <sub>4</sub> H <sub>7</sub> NO <sub>4</sub>	Iminodiacetic acid	1		2.98
$C_3H_9NO$	2-Methoxyethylamine		25	9.40			2		9.89
$C_3H_9NO$	Trimethylamine oxide		20	4.65	C <sub>4</sub> H <sub>7</sub> NO <sub>4</sub>	L-Aspartic acid	1	25	1.99
$C_{3}H_{10}N_{2}$	1,2-Propanediamine, (±)	1	25	9.82	. , .		2	25	3.90
		2	25	6.61			3	25	9.90
$C_{3}H_{10}N_{2}$	1,3-Propanediamine	1	25	10.55	C <sub>4</sub> H <sub>7</sub> N <sub>3</sub> O	Creatinine	1	25	4.8
		2	25	8.88			2		9.2
$C_{3}H_{10}N_{2}O$	1,3-Diamino-2-propanol	1	20	9.69	$C_4H_7N_5$	2,4,6-Pyrimidinetriamine		20	6.84
		2	20	7.93	$C_4H_8N_2O_3$	L-Asparagine	1	20	2.1
$C_{3}H_{11}N_{3}$	1,2,3-Triaminopropane	1	20	9.59			2	20	8.80
		2	20	7.95	C <sub>4</sub> H <sub>8</sub> N <sub>2</sub> O <sub>3</sub>	N-Glycylglycine	1	25	3.14
$C_4H_4FN_3O$	Flucytosine			3.26			2		8.17
$C_4H_4N_2$	Pyrazine		20	0.65	$C_4^H_8O_2$	Butanoic acid		25	4.83
$C_4H_4N_2$	Pyrimidine		20	1.23	$C_4H_8O_2$	2-Methylpropanoic acid		20	4.84
$C_4H_4N_2$	Pyridazine		20	2.24	$C_4H_8O_3$	3-Hydroxybutanoic acid, (±)		25	4.70
$C_4H_4N_2O_2$	Uracil		25	9.45	$C_4H_8O_3$	4-Hydroxybutanoic acid		25	4.72
$C_4H_4N_2O_3$	Barbituric acid		25	4.01	$C_4H_8O_3$	Ethoxyacetic acid		18	3.65
$C_4H_4N_2O_5$	Alloxanic acid		25	6.64	$C_4H_9N$	Pyrrolidine		25	11.31

Mol. form.	Name	Step	t/°C	$pK_a$	Mol. form.	Name	Step	t/°C	$pK_a$
C <sub>4</sub> H <sub>9</sub> NO	Morpholine		25	8.50	C <sub>5</sub> H <sub>5</sub> NO <sub>2</sub>	1 <i>H</i> -Pyrrole-3-carboxylic		20	5.00
$C_4H_9NO_2$	2-Methylalanine	1 2	25 25	2.36 10.21	CHNO	acid Pyrazinecarboxamide			0.5
$C_4H_0NO_2$	<i>N,N-</i> Dimethylglycine	2	25 25	9.89	C <sub>5</sub> H <sub>5</sub> N <sub>3</sub> O C <sub>5</sub> H <sub>5</sub> N <sub>5</sub>	Adenine	1		4.3
$C_4H_9NO_2$	DL-2-Aminobutanoic acid	1	25	2.29	C <sub>5</sub> 11 <sub>5</sub> 1 <b>\</b> 5	Ademic	2		9.83
041191102	DD 2 Tillinobutunoic ucid	2	25	9.83	C <sub>5</sub> H <sub>5</sub> N <sub>5</sub> O	Guanine	2	40	9.92
$C_4H_9NO_2$	4-Aminobutanoic acid	1	25	4.031	$C_5H_6N_2$	2-Pyridinamine		20	6.82
4 9 2		2	25	10.556	$C_5H_6N_2$	3-Pyridinamine		25	6.04
C <sub>4</sub> H <sub>9</sub> NO <sub>2</sub> S	DL-Homocysteine	1	25	2.22	$C_5H_6N_2$	4-Pyridinamine		25	9.11
		2	25	8.87	$C_5H_6N_2$	2-Methylpyrazine		27	1.45
		3	25	10.86	$C_5H_6N_2O_2$	Thymine		25	9.94
$C_4H_9NO_3$	<i>L</i> -Threonine	1	25	2.09	C <sub>5</sub> H <sub>6</sub> O <sub>4</sub>	1,1-Cyclopropanedi-	1	25	1.82
		2	25	9.10		carboxylic acid	2	25	7.43
$C_4H_9NO_3$	L-Homoserine	1	25	2.71	C <sub>5</sub> H <sub>6</sub> O <sub>4</sub>	trans-1-Propene-1,2-	1	25	3.09
CHNO		2	25	9.62	CHO	dicarboxylic acid	2	25	4.75
$C_4H_9N_3O_2$	Creatine	1 2	25 25	2.63	$C_5H_6O_4$	1-Propene-2,3- dicarboxylic acid	1 2	25 25	3.85
CHN	Piperazine	1	25 25	14.3 9.73	C <sub>5</sub> H <sub>6</sub> O <sub>5</sub>	2-Oxoglutaric acid	1	25 25	5.45 2.47
$C_4^{}H_{10}^{}N_2^{}$	riperazine	2	25	5.33	C <sub>5</sub> 11 <sub>6</sub> O <sub>5</sub>	2-Oxogrataric acid	2	25	4.68
$C_4H_{10}N_2O_2$	2,4-Diaminobutanoic acid	1	25	1.85	C <sub>5</sub> H <sub>7</sub> NO <sub>3</sub>	5,5-Dimethyl-2,4-	2	37	6.13
0 <sub>4</sub> 11 <sub>10</sub> 11 <sub>2</sub> 02	2,1 Diaminopatanore acra	2	25	8.24	5,17,1103	oxazolidinedione		٥,	0.10
		3	25	10.44	C <sub>5</sub> H <sub>7</sub> NO <sub>3</sub>	L-Pyroglutamic acid		25	3.32
$C_{4}H_{10}O_{4}$	1,2,3,4-Butanetetrol			13.9	$C_5H_7N_3$	2,5-Pyridinediamine		20	6.48
$C_4H_{11}N$	Butylamine		25	10.60	$C_5H_7N_3$	Methylaminopyrazine		25	3.39
$C_4H_{11}N$	sec-Butylamine		25	10.56	$C_5H_7N_3O_4$	Azaserine			8.55
$C_4H_{11}N$	<i>tert-</i> Butylamine		25	10.68	$C_5H_8N_2$	2,4-Dimethylimidazole		25	8.36
$C_4H_{11}N$	Diethylamine		25	10.84	$C_5H_8N_4O_3S_2$	Methazolamide			7.30
$C_4H_{11}NO_3$	Tris(hydroxymethyl)		20	8.3	$C_5H_8O_2$	trans-3-Pentenoic acid		25	4.51
a	methylamine	_		40.00	C <sub>5</sub> H <sub>8</sub> O <sub>4</sub>	Dimethylmalonic acid	_	25	3.15
$C_4 H_{12} N_2$	1,4-Butanediamine	1	25	10.80	$C_5H_8O_4$	Glutaric acid	1	18	4.32
C II D.AI	2 Duomonywidin o	2	25 25	9.63	CHO	Mathadanasinia asid	2 1	25 25	5.42 4.13
C₅H₄BrN C₅H₄ClN	3-Bromopyridine 2-Chloropyridine		25 25	2.84 0.49	$C_5H_8O_4$	Methylsuccinic acid	2	25 25	5.64
$C_5H_4CIN$ $C_5H_4CIN$	3-Chloropyridine		25	2.81	C <sub>5</sub> H <sub>9</sub> NO <sub>2</sub>	L-Proline	1	25	1.95
$C_5H_4CIN$	4-Chloropyridine		25	3.83	51191102	L I Tollic	2	25	10.64
$C_5H_4FN$	2-Fluoropyridine		25	-0.44	C <sub>5</sub> H <sub>9</sub> NO <sub>3</sub>	5-Amino-4-oxopentanoic	1	25	4.05
$C_{5}^{5}H_{4}^{4}N_{2}O_{2}$	4-Nitropyridine		25	1.61	5 9 3	acid	2	25	8.90
$C_5H_4N_4$	1 <i>H-</i> Purine	1	20	2.30	C <sub>5</sub> H <sub>9</sub> NO <sub>3</sub>	trans-4-Hydroxyproline	1	25	1.82
J 1 1		2	20	8.96			2	25	9.66
$C_5H_4N_4O$	Hypoxanthine		25	8.7	C <sub>5</sub> H <sub>9</sub> NO <sub>4</sub>	L-Glutamic acid	1	25	2.13
$C_5H_4N_4O$	Allopurinol			10.2			2	25	4.31
$C_5H_4N_4O_3$	Uric acid		12	3.89			3		9.67
$C_5H_4N_4S$	1,7-Dihydro-6H-	1		7.77	C <sub>5</sub> H <sub>9</sub> N <sub>3</sub>	Histamine	1	25	6.04
CHOC	purine-6-thione	2	25	11.17	CHNO		2	25	9.75
$C_5H_4O_2S$	2-Thiophenecarboxylic acid 3-Thiophenecarboxylic acid		25 25	3.49 4.1	$C_5H_{10}N_2O_3$	Glycylalanine  L-Glutamine	1	25 25	3.15 2.17
$C_5H_4O_2S$ $C_5H_4O_3$	2-Furancarboxylic acid		25 25	3.16	$C_5H_{10}N_2O_3$	L-Giutaillille	2	25 25	9.13
$C_{5}H_{4}O_{3}$ $C_{5}H_{4}O_{3}$	3-Furancarboxylic acid		25	3.10	C <sub>5</sub> H <sub>10</sub> N <sub>2</sub> O <sub>4</sub>	Glycylserine	1	25	2.98
$C_5H_4O_3$ $C_5H_5N$	Pyridine		25	5.23	5111011204	diyeyiserine	2	25	8.38
$C_5H_5NO$	2-Pyridinol	1	20	0.75	$C_{5}H_{10}O_{2}$	Pentanoic acid	_	20	4.83
5 5	,	2	20	11.65	$C_5^{10}$ $H_{10}^{2}$	2-Methylbutanoic acid		25	4.80
$C_5H_5NO$	3-Pyridinol	1	20	4.79	$C_5^{10}$ $H_{10}^{2}$	3-Methylbutanoic acid		25	4.77
		2	20	8.75	$C_5^3 H_{10}^{10} O_2^2$	2,2-Dimethylpropanoic acid		20	5.03
$C_5H_5NO$	4-Pyridinol	1	20	3.20	$C_5H_{10}O_4$	D-2-Deoxyribose		25	12.61
		2	20	11.12	$C_{5}H_{10}O_{5}$	L-Ribose		25	12.22
$C_5H_5NO$	2(1H)-Pyridinone	1	20	0.75	$C_{5}H_{10}O_{5}$	D-Xylose		18	12.14
		2	20	11.65	$C_5H_{11}N$	Piperidine		25	11.123
C <sub>5</sub> H <sub>5</sub> NO	Pyridine-1-oxide		24	0.79	C <sub>5</sub> H <sub>11</sub> N	<i>N</i> -Methylpyrrolidine		25	10.46
$C_5H_5NO_2$	1 <i>H</i> -Pyrrole-2-carboxylic		20	4.45	C <sub>5</sub> H <sub>11</sub> NO	4-Methylmorpholine	1	25	7.38
	acid				$C_5H_{11}NO_2$	<i>L</i> -Valine	1 2	25 25	2.29 9.74
					I		2	∠3	2./ <del>1</del>

Mol. form.	Name	Step	t/°C	pK <sub>a</sub>	Mol. form.	Name	Step	t/°C	pK <sub>a</sub>
$C_5H_{11}NO_2$	<i>DL</i> -Norvaline	1		2.36	C II D.AI	0. D	3	20	9.31
CHNO	<i>L</i> -Norvaline	2	25	9.72 2.32	C <sub>6</sub> H <sub>6</sub> BrN	2-Bromoaniline 3-Bromoaniline		25 25	2.53 3.53
$C_5H_{11}NO_2$	L-Norvaillie	1 2	25 25	2.32 9.81	C <sub>6</sub> H <sub>6</sub> BrN	4-Bromoaniline		25 25	3.89
$C_5H_{11}NO_2$	N-Propylglycine	1	25 25	2.35	C <sub>6</sub> H <sub>6</sub> BrN C <sub>6</sub> H <sub>6</sub> ClN	2-Chloroaniline		25 25	2.66
$C_5 I_{11} I O_2$	W-Fropyigiyeme	2	25 25	10.19	C <sub>6</sub> H <sub>6</sub> ClN	3-Chloroaniline		25 25	3.52
$C_5H_{11}NO_2$	5-Aminopentanoic acid	1	25	4.27	C <sub>6</sub> H <sub>6</sub> ClN	4-Chloroaniline		25	3.98
$C_{5}^{1}I_{11}^{1}NO_{2}^{1}$	5-Animopentanoic acid	2	25	10.77	C <sub>6</sub> H <sub>6</sub> FN	2-Fluoroaniline		25	3.20
$C_5H_{11}NO_2$	Betaine	2	0	1.83	C <sub>6</sub> H <sub>6</sub> FN	3-Fluoroaniline		25	3.59
$C_5 H_{11} NO_2 S$	L-Methionine	1	25	2.13	C <sub>6</sub> H <sub>6</sub> FN	4-Fluoroaniline		25	4.65
$C_5^{11}_{11}^{11}^{11}C_2^{2}^{2}$	L Wethornie	2	25	9.27	C <sub>6</sub> H <sub>6</sub> IN	2-Iodoaniline		25	2.54
$C_5H_{12}N_2O$	Tetramethylurea	2	23	2	C <sub>6</sub> H <sub>6</sub> IN	3-Iodoaniline		25	3.58
$C_5H_{12}N_2O_2$	L-Ornithine	1	25	1.71	C <sub>6</sub> H <sub>6</sub> IN	4-Iodoaniline		25	3.81
0 <sub>5</sub> 11 <sub>12</sub> 11 <sub>2</sub> 0 <sub>2</sub>	2 officiality	2	25	8.69	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O	3-Pyridinecarboxamide		20	3.3
		3	25	10.76	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O	2-Pyridinecarbox-	1	20	3.59
$C_5H_{13}N$	Pentylamine	J	25	10.63	06116112	aldehyde oxime	2	20	10.18
$C_5H_{13}N$	3-Pentanamine		17	10.59	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	2-Nitroaniline	_	25	-0.25
$C_5H_{13}N$	3-Methyl-1-butanamine		25	10.60	$C_6H_6N_2O_2$	3-Nitroaniline		25	2.46
$C_5^{13}$ N	2-Methyl-2-butanamine		19	10.85	$C_6H_6N_2O_2$	4-Nitroaniline		25	1.02
$C_5 H_{13} N$	2,2-Dimethylpropylamine		25	10.15	C <sub>6</sub> H <sub>6</sub> O	Phenol		25	9.99
$C_5^5 H_{13}^{13} N$	Diethylmethylamine		25	10.35	C <sub>6</sub> H <sub>6</sub> O <sub>2</sub>	<i>p</i> -Hydroquinone	1	25	9.85
$C_{5}^{5}H_{14}^{13}NO$	Choline		25	13.9	6 6 2	1 / 1	2	25	11.4
$C_{5}^{3}H_{14}^{14}N_{2}$	1,5-Pentanediamine	1	25	10.05	$C_6H_6O_2$	Pyrocatechol	1	25	9.34
5 14 2		2	25	10.93	6 6 2	•	2	25	12.6
C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub> N <sub>2</sub> O <sub>2</sub>	4-Amino-3,5,6-trichloro-			3.6	$C_6H_6O_2$	Resorcinol	1	25	9.32
0 3 3 2 2	2-pyridinecarboxlic acid				0 0 2		2	25	11.1
$C_6H_3N_3O_7$	2,4,6-Trinitrophenol		24	0.42	C <sub>6</sub> H <sub>6</sub> O <sub>2</sub> S	Benzenesulfinic acid		20	1.3
C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub> O	2,3-Dichlorophenol		25	7.44	C <sub>6</sub> H <sub>6</sub> O <sub>3</sub> S	Benzenesulfonic acid		25	0.70
$C_6H_4N_2O_5$	2,4-Dinitrophenol		25	4.07	$C_6H_6O_4$	5-Hydroxy-2-(hydroxy-			7.9
$C_6H_4N_2O_5$	2,5-Dinitrophenol		15	5.15		methyl)-4H-pyran-4-one			
$C_6H_4N_4$	Pteridine		20	4.05	C <sub>6</sub> H <sub>6</sub> O <sub>4</sub> S	3-Hydroxybenzene-		25	9.07
C <sub>6</sub> H <sub>5</sub> BrO	2-Bromophenol		25	8.45		sulfonic acid			
$C_6H_5BrO$	3-Bromophenol		25	9.03	$C_6H_6O_4S$	4-Hydroxybenzene-		25	9.11
C <sub>6</sub> H <sub>5</sub> BrO	4-Bromophenol		25	9.37		sulfonic acid			
$C_6H_5Br_2N$	3,5-Dibromoaniline		25	2.34	C <sub>6</sub> H <sub>6</sub> O <sub>6</sub>	cis-1-Propene-1,2,3-		25	1.95
C <sub>6</sub> H <sub>5</sub> ClO	2-Chlorophenol		25	8.56		tricarboxylic acid			
C <sub>6</sub> H <sub>5</sub> ClO	3-Chlorophenol		25	9.12	$C_6H_6O_6$	trans-1-Propene-1,2,3-	1	25	2.80
C <sub>6</sub> H <sub>5</sub> ClO	4-Chlorophenol		25	9.41		tricarboxylic acid	2	25	4.46
$C_6H_5Cl_2N$	2,4-Dichloroaniline		22	2.05	C <sub>6</sub> H <sub>6</sub> S	Benzenethiol		25	6.62
$C_6H_5FO$	2-Fluorophenol		25	8.73	C <sub>6</sub> H <sub>7</sub> BO <sub>2</sub>	Benzeneboronic acid			8.83
C <sub>6</sub> H <sub>5</sub> FO	3-Fluorophenol		25	9.29	C <sub>6</sub> H <sub>7</sub> N	Aniline		25	4.87
C <sub>6</sub> H <sub>5</sub> FO	4-Fluorophenol		25	9.89	$C_6H_7N$	2-Methylpyridine		25	6.00
C <sub>6</sub> H <sub>5</sub> IO	2-Iodophenol		25	8.51	C <sub>6</sub> H <sub>7</sub> N	3-Methylpyridine		25	5.70
C <sub>6</sub> H <sub>5</sub> IO	3-Iodophenol		25	9.03	$C_6H_7N$	4-Methylpyridine		25	5.99
C <sub>6</sub> H <sub>5</sub> IO	4-Iodophenol		25	9.33	C <sub>6</sub> H <sub>7</sub> NO	2-Aminophenol	1	20	4.78
C <sub>6</sub> H <sub>5</sub> NO	2-Pyridinecarboxaldehyde		25	12.68	a		2	20	9.97
C <sub>6</sub> H <sub>5</sub> NO	4-Pyridinecarboxaldehyde		30	12.05	C <sub>6</sub> H <sub>7</sub> NO	3-Aminophenol	1	20	4.37
C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	Nitrobenzene	1	0	3.98	CHNO	4.4 . 1 . 1	2	20	9.82
$C_6H_5NO_2$	2-Pyridinecarboxylic acid	1	20	0.99	C <sub>6</sub> H <sub>7</sub> NO	4-Aminophenol	1	25	5.48
CHNO	2 D . I. 1 1 I	2	20	5.39	CHNO	0.16 (1	2	25	10.30
$C_6H_5NO_2$	3-Pyridinecarboxylic acid	1	25	2.00	C <sub>6</sub> H <sub>7</sub> NO	2-Methoxypyridine		20	3.28
CHNO	4 Dymidin a comb ox - 1:: 1	2	25	4.82	C <sub>6</sub> H <sub>7</sub> NO	3-Methoxypyridine		25	4.78
$C_6H_5NO_2$	4-Pyridinecarboxylic acid	1	25	1.77	C <sub>6</sub> H <sub>7</sub> NO	4-Methoxypyridine		25	6.58
CHNO	2 Nituanhanal	2	25	4.84	C <sub>6</sub> H <sub>7</sub> NO <sub>3</sub> S	2-Aminobenzenesulfonic		25	2.46
C <sub>6</sub> H <sub>5</sub> NO <sub>3</sub>	2-Nitrophenol		25 25	7.23	CHNOC	acid		25	274
C <sub>6</sub> H <sub>5</sub> NO <sub>3</sub>	3-Nitrophenol 4-Nitrophenol			8.36 7.15	C <sub>6</sub> H <sub>7</sub> NO <sub>3</sub> S	3-Aminobenzenesulfonic acid		25	3.74
C <sub>6</sub> H <sub>5</sub> NO <sub>3</sub>	4-Nitropnenoi 1 <i>H-</i> Benzotriazole		25 20	7.15 1.6	CHNOS			25	3.23
C <sub>6</sub> H <sub>5</sub> N <sub>3</sub>		1	20	2.27	C <sub>6</sub> H <sub>7</sub> NO <sub>3</sub> S	4-Aminobenzenesulfonic acid		23	3.43
$C_6H_5N_5O$	2-Amino-4- hydroxypteridine	2	20	7.96	C <sub>6</sub> H <sub>8</sub> N <sub>2</sub>	N-Methylpyridinamine		20	9.65
$C_6H_5N_5O_2$	Xanthopterin	2	20	6.59	$C_6H_8N_2$	o-Phenylenediamine	1	20	9.63 4.57
6 <sup>1</sup> 5 <sup>1</sup> 5 2		2	20	0.07	6 8 2	5 2 Henrichedianinie		20	1.07

Mol. form.	Name	Step	t/°C	pK <sub>a</sub>	Mol. form.	Name	Step	t/°C	pK <sub>a</sub>
$C_6H_8N_2$	<i>m</i> -Phenylenediamine	2 1	20 20	0.80 5.11	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	<i>L</i> -Leucine	1 2	25 25	2.33 9.74
C <sub>6</sub> 11 <sub>8</sub> 11 <sub>2</sub>	m-1 nenylenediamine	2	20	2.50	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	L-Isoleucine	1	25	2.32
$C_6H_8N_2$	<i>p</i> -Phenylenediamine	1	20	6.31	61131102	2 Idoxedeme	2	25	9.76
6 8 2	1 7	2	20	2.97	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	L-Norleucine	1	25	2.34
$C_6H_8N_2$	Phenylhydrazine		15	8.79	6 13 2		2	25	9.83
$C_6H_8O_2$	2,4-Hexadienoic acid		25	4.76	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	6-Aminohexanoic acid	1	25	4.37
$C_6H_8O_2$	1,3-Cyclohexanedione		25	5.26			2	25	10.80
$C_6H_8O_4$	2,2-Dimethyl-1,3- dioxane-4,6-dione			5.1	C <sub>6</sub> H <sub>13</sub> NO <sub>4</sub>	<i>N,N-</i> Bis(2-hydroxy- ethyl)glycine	2	20	8.35
$C_6H_8O_6$	L-Ascorbic acid	1	25	4.04	$C_{6}H_{13}N_{3}O_{3}$	Citrulline	1	25	2.43
		2	16	11.7			2	25	9.69
$C_6H_8O_7$	Citric acid	1	25	3.13	$C_{6}H_{14}N_{2}$	cis-1,2-Cyclohexane-	1	20	9.93
		2	25	4.76		diamine	2	20	6.13
CHO	T 1, 1 1 1	3	25	6.40	$C_6H_{14}N_2$	trans-1,2-Cyclohexane-	1	20	9.94
$C_6H_8O_7$	Isocitric acid	1	25	3.29	CHA	diamine	2	20	6.47
		2 3	25 25	4.71	$C_{6}H_{14}N_{2}$	cis-2,5-Dimethyl-	1	25 25	9.66 5.20
C H NO	Nitrilotriacetic acid	3 1	20	6.40 3.03	CHNO	piperazine $L$ -Lysine	2 1	25 25	2.16
$C_6H_9NO_6$	Nitriiotriacetic acid	2	20	3.03	$C_6H_{14}N_2O_2$	L-Lysine	2	25 25	9.06
		3	20	10.70			3	25	10.54
C <sub>6</sub> H <sub>9</sub> NO <sub>6</sub>	L-γ-Carboxyglutamic acid	1	25	1.7	C <sub>6</sub> H <sub>14</sub> N <sub>4</sub> O <sub>2</sub>	L-Arginine	1	25	1.82
061191106	2   Garbon/gracumic acra	2	25	3.2	6114142	2	2	25	8.99
		3	25	4.75			3	25	12.5
		4	25	9.9	$C_6H_{14}O_6$	D-Mannitol		18	13.5
$C_6H_9N_3$	4,6-Dimethylpyrimi-		20	4.82	$C_6^{\circ}H_{15}^{14}N^{\circ}$	Hexylamine		25	10.56
0 , 0	dinamine				C <sub>6</sub> H <sub>15</sub> N	Diisopropylamine		25	11.05
$C_6H_9N_3O_2$	L-Histidine	1	25	1.80	$C_6H_{15}N$	Triethylamine		25	10.75
		2	25	6.04	C <sub>6</sub> H <sub>15</sub> NO <sub>3</sub>	Triethanolamine		25	7.76
		3	25	9.33	$C_{6}H_{16}N_{2}$	1,6-Hexanediamine	1	0	11.86
$C_6 H_{10} O_2$	Cyclopentanecarboxylic		25	4.99			2	0	10.76
	acid				$C_{6}H_{16}N_{2}$	<i>N,N,N,N</i> '.Tetramethyl-	1	25	10.40
$C_6 H_{10} O_3$	Ethyl acetoacetate		25	10.68		1,2-ethanediamine	2	25	8.26
$C_6H_{10}O_4$	3-Methylglutaric acid		25	4.24	C <sub>6</sub> H <sub>19</sub> NSi <sub>2</sub>	Hexamethyldisilazane			7.55
$C_6H_{10}O_4$	Adipic acid	1	18	4.41	C <sub>7</sub> HF <sub>5</sub> O <sub>2</sub>	Pentafluorobenzoic acid		25	1.75
CH NO		2	18	5.41	C <sub>7</sub> H <sub>3</sub> Br <sub>2</sub> NO	3,5-Dibromo-4-			4.06
$C_6H_{11}NO_2$	2-Piperidinecarboxylic acid	1 2	25 25	2.28 10.72	CHNO	hydroxybenzonitrile		25	0.65
CH NO	Adipamic acid	2	25 25	4.63	C <sub>7</sub> H <sub>3</sub> N <sub>3</sub> O <sub>8</sub> C <sub>7</sub> H <sub>4</sub> Cl <sub>3</sub> NO <sub>3</sub>	2,4,6-Trinitrobenzoic acid Triclopyr		25	2.68
$C_6H_{11}NO_3$	2-Aminoadipic acid	1	25	2.14	$C_7H_4C_3NO_3$ $C_7H_4N_2O_6$	2,4-Dinitrobenzoic acid		25	1.43
$C_6H_{11}NO_4$	2-7 minoacipic acid	2	25	4.21	$C_7H_4H_2O_6$ $C_7H_5BrO_2$	2-Bromobenzoic acid		25	2.85
		3	25	9.77	$C_7H_5BrO_2$ $C_7H_5BrO_3$	3-Bromobenzoic acid		25	3.81
$C_{6}H_{11}N_{3}O_{4}$	N-(N-Glycylglycyl)glycine	1	25	3.225	$C_7H_5BrO_2$	4-Bromobenzoic acid		25	3.96
6 11 3 4	( 17071701	2	25	8.09	C,H,ClO,	2-Chlorobenzoic acid		25	2.90
$C_{6}H_{11}N_{3}O_{4}$	Glycylasparagine	1	25	2.942	C <sub>7</sub> H <sub>5</sub> ClO <sub>2</sub>	3-Chlorobenzoic acid		25	3.84
0 11 0 1		2	18	8.44	C <sub>7</sub> H <sub>5</sub> ClO <sub>2</sub>	4-Chlorobenzoic acid		25	4.00
$C_6H_{12}N_2$	Triethylenediamine	1		3.0	$C_7H_5FO_2$	2-Fluorobenzoic acid		25	3.27
		2		8.7	C <sub>7</sub> H <sub>5</sub> FO <sub>2</sub>	3-Fluorobenzoic acid		25	3.86
$C_6H_{12}N_2O_4S_2$	<i>L</i> -Cystine	1		1	C <sub>7</sub> H <sub>5</sub> FO <sub>2</sub>	4-Fluorobenzoic acid		25	4.15
		2		2.1	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub> O	2-(Trifluoromethyl)phenol		25	8.95
		3		8.02	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub> O	3-(Trifluoromethyl)phenol		25	8.68
		4		8.71	$C_7H_5IO_2$	2-Iodobenzoic acid		25	2.86
$C_6H_{12}O_2$	Hexanoic acid		25	4.85	C <sub>7</sub> H <sub>5</sub> IO <sub>2</sub>	3-Iodobenzoic acid		25	3.87
$C_6H_{12}O_2$	4-Methylpentanoic acid		18	4.84	C <sub>7</sub> H <sub>5</sub> IO <sub>2</sub>	4-Iodobenzoic acid		25	4.00
$C_6H_{12}O_6$	β-D-Fructose		25 25	12.27	C <sub>7</sub> H <sub>5</sub> NO	2-Hydroxybenzonitrile		25	6.86
$C_6H_{12}O_6$	$\alpha$ - $D$ -Glucose D-Mannose		25 25	12.46	C <sub>7</sub> H <sub>5</sub> NO	3-Hydroxybenzonitrile		25 25	8.61 7.07
$C_6H_{12}O_6$	D-Mannose Cyclohexylamine		25 25	12.08 10.64	C <sub>7</sub> H <sub>5</sub> NO C <sub>7</sub> H <sub>5</sub> NO <sub>3</sub> S	4-Hydroxybenzonitrile Saccharin		25 18	7.97 11.68
$C_6H_{13}N$ $C_6H_{13}N$	1-Methylpiperidine		25 25	10.84	C <sub>7</sub> H <sub>5</sub> NO <sub>3</sub> S C <sub>7</sub> H <sub>5</sub> NO <sub>4</sub>	2-Nitrobenzoic acid		25	2.17
$C_{6}H_{13}N$	1,2-Dimethylpyrrolidine		26	10.38	$C_7H_5NO_4$ $C_7H_5NO_4$	3-Nitrobenzoic acid		25	3.46
$C_{6}^{11}_{13}^{13}$ NO	<i>N</i> -Ethylmorpholine		25	7.67	C <sub>7</sub> H <sub>5</sub> NO <sub>4</sub>	4-Nitrobenzoic acid		25	3.43
6-13-10					7-51-4			-3	3.10

Mol. form.	Name	Step	t/°C	$pK_a$	Mol. form.	Name	Step	t/°C	$pK_a$
$C_7H_5NO_4$	2,3-Pyridinedicarboxylic	1	25	2.43	C <sub>7</sub> H <sub>9</sub> N	2-Methylaniline		25	4.45
	acid	2	25	4.78	C <sub>7</sub> H <sub>9</sub> N	3-Methylaniline		25	4.71
$C_7H_5NO_4$	2,4-Pyridinedicarboxylic	1	25	2.15	C <sub>7</sub> H <sub>9</sub> N	4-Methylaniline		25	5.08
	acid				C <sub>7</sub> H <sub>9</sub> N	<i>N</i> -Methylaniline		25	4.85
$C_7H_5NO_4$	2,6-Pyridinedicarboxylic	1	25	2.16	C <sub>7</sub> H <sub>9</sub> N	2-Ethylpyridine		25	5.89
	acid	2	25	4.76	C <sub>7</sub> H <sub>9</sub> N	2,3-Dimethylpyridine		25	6.57
$C_7H_5NO_4$	3,5-Pyridinedicarboxylic	1	25	2.80	C <sub>7</sub> H <sub>9</sub> N	2,4-Dimethylpyridine		25	6.99
	acid				C <sub>7</sub> H <sub>9</sub> N	2,5-Dimethylpyridine		25	6.40
	Chlorothiazide	1		6.85	C <sub>7</sub> H <sub>9</sub> N	2,6-Dimethylpyridine		25	6.65
C <sub>7</sub> H <sub>6</sub> ClN <sub>3</sub> O <sub>4</sub> S <sub>2</sub>		2		9.45	C <sub>7</sub> H <sub>9</sub> N	3,4-Dimethylpyridine		25	6.46
$C_7H_6F_3N$	3-(Trifluoromethyl)aniline		25	3.49	C <sub>7</sub> H <sub>9</sub> N	3,5-Dimethylpyridine		25	6.15
$C_7H_6F_3N$	4-(Trifluoromethyl)aniline		25	2.45	C <sub>7</sub> H <sub>9</sub> NO	2-Methoxyaniline		25	4.53
$C_7H_6N_2$	1 <i>H-</i> Benzimidazole		25	5.53	C <sub>7</sub> H <sub>9</sub> NO	3-Methoxyaniline		25	4.20
$C_7H_6N_2$	2-Aminobenzonitrile		25	0.77	C <sub>7</sub> H <sub>9</sub> NO	4-Methoxyaniline		25	5.36
$C_7H_6N_2$	3-Aminobenzonitrile		25	2.75	C <sub>7</sub> H <sub>9</sub> NS	2-(Methylthio)aniline		25	3.45
$C_7H_6N_2$	4-Aminobenzonitrile		25	1.74	C <sub>7</sub> H <sub>9</sub> NS	4-(Methylthio)aniline		25	4.35
C <sub>7</sub> H <sub>6</sub> O	Benzaldehyde		25	14.90	C <sub>7</sub> H <sub>9</sub> N <sub>5</sub>	2-Dimethylaminopurine	1	20	4.00
$C_7H_6O_2$	Benzoic acid		25	4.204	, , ,	· -	2	20	10.24
$C_7H_6O_2$	Salicylaldehyde		25	8.37	$C_7 H_{11} N_3 O_2$	L-1-Methylhistidine	1	25	1.69
$C_7H_6O_2$	3-Hydroxybenzaldehyde		25	8.98	/ 11 3 2	•	2	25	6.48
$C_7H_6O_2$	4-Hydroxybenzaldehyde		25	7.61			3	25	8.85
$C_7H_6O_3$	2-Hydroxybenzoic acid	1	20	2.98	C <sub>7</sub> H <sub>11</sub> N <sub>3</sub> O <sub>2</sub>	L-3-Methylhistidine	1	25	1.92
-7 6 3	, ,	2	20	13.6	-7 11 3 2	,	2	25	6.56
$C_7H_6O_3$	3-Hydroxybenzoic acid	1	25	4.08			3	25	8.73
O7 16 3	o 11, aron, pendore acia	2	19	9.92	C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	Cyclohexanecarboxylic acid	J	25	4.91
$C_7H_6O_3$	4-Hydroxybenzoic acid	1	25	4.57	$C_7H_{12}O_4$	Heptanedioic acid	1	25	4.71
O7 16 3	1 11/ urosty bestablie uesu	2	25	9.46	0711204	Trepunie uiote uetu	2	25	5.58
$C_7H_6O_4$	2,4-Dihydroxybenzoic acid	1	25	3.11	C <sub>7</sub> H <sub>12</sub> O <sub>4</sub>	Butylpropanedioic acid	1	5	2.96
C <sub>7</sub> 11 <sub>6</sub> O <sub>4</sub>	2,1 Dinydroxybenzoic acid	2	25	8.55	$C_7H_{12}O_4$ $C_7H_{13}NO_4$	α-Ethylglutamic acid	1	25	3.846
		3	25	14.0	C <sub>7</sub> 11 <sub>13</sub> 11C <sub>4</sub>	a Emygratanne acia	2	25	7.838
$C_7H_6O_4$	2,5-Dihydroxybenzoic acid	1	25	2.97	$C_7H_{14}O_2$	Heptanoic acid	2	25	4.89
$C_7H_6O_4$ $C_7H_6O_4$	3,4-Dihydroxybenzoic acid	1	25	4.48	$C_7H_{14}O_2$ $C_7H_{14}O_6$	α-Methylglucoside		25	13.71
$C_7^{11}_6^{0}$	3,4-Diliyaroxybelizoic acia	2	25	8.83		1-Ethylpiperidine		23	10.45
		3	25	12.6	C <sub>7</sub> H <sub>15</sub> N	1,2-Dimethylpiperidine,(±)		25 25	10.43
СПО	3,5-Dihydroxybenzoic acid	1	25 25	4.04	$C_7H_{15}N$	Carnitine		25 25	3.80
$C_7H_6O_4$		1	25 25		C <sub>7</sub> H <sub>15</sub> NO <sub>3</sub>			25 25	10.67
$C_7H_6O_5$	2,4,6-Trihydroxybenzoic acid		23	1.68	$C_7H_{17}N$	Heptylamine 2-Heptanamine		25 19	10.67
CHO			25	4.41	C <sub>7</sub> H <sub>17</sub> N	3-Cyanobenzoic acid		25	
$C_7H_6O_5$	3,4,5-Trihydroxybenzoic		25	4.41	C <sub>8</sub> H <sub>5</sub> NO <sub>2</sub>	•			3.60
CHNO	acid		25	~10	C <sub>8</sub> H <sub>5</sub> NO <sub>2</sub>	4-Cyanobenzoic acid		25	3.55
C <sub>7</sub> H <sub>7</sub> NO	Benzamide	1	25	~13	C <sub>8</sub> H <sub>6</sub> N <sub>2</sub>	Cinnoline		20	2.37
$C_7H_7NO_2$	Aniline-2-carboxylic acid	1	25	2.17	$C_8H_6N_2$	Quinazoline		29	3.43
GHNO		2	25	4.85	C <sub>8</sub> H <sub>6</sub> N <sub>2</sub>	Quinoxaline		20	0.56
$C_7H_7NO_2$	Aniline-3-carboxylic acid	1	25	3.07	C <sub>8</sub> H <sub>6</sub> N <sub>2</sub>	Phthalazine		20	3.47
GHNO		2	25	4.79	$C_8H_6N_4O_5$	Nitrofurantoin		0.5	7.2
$C_7H_7NO_2$	Aniline-4-carboxylic acid	1	25	2.50	C <sub>8</sub> H <sub>6</sub> O <sub>3</sub>	3-Formylbenzoic acid		25	3.84
611110		2	25	4.87	C <sub>8</sub> H <sub>6</sub> O <sub>3</sub>	4-Formylbenzoic acid	_	25	3.77
$C_7H_7NO_3$	4-Amino-2-hydroxy-			3.25	$C_8H_6O_4$	Phthalic acid	1	25	2.943
arranto a	benzoic acid				a		2	25	5.432
C <sub>7</sub> H <sub>8</sub> ClN <sub>3</sub> O <sub>4</sub> S <sub>2</sub>	Hydrochlorothiazide	1		7.9	$C_8H_6O_4$	Isophthalic acid	1	25	3.70
		2		9.2			2	25	4.60
$C_7H_8N_4O_2$	Theobromine		18	7.89	$C_8H_6O_4$	Terephthalic acid	1	25	3.54
$C_7H_8N_4O_2$	Theophylline	1	25	8.77			2	25	4.34
$C_7H_8O$	o-Cresol		25	10.29	C <sub>8</sub> H <sub>7</sub> ClO <sub>2</sub>	2-Chlorobenzeneacetic acid		25	4.07
$C_7H_8O$	m-Cresol		25	10.09	C <sub>8</sub> H <sub>7</sub> ClO <sub>2</sub>	3-Chlorobenzeneacetic acid		25	4.14
$C_7H_8O$	<i>p</i> -Cresol		25	10.26	C <sub>8</sub> H <sub>7</sub> ClO <sub>2</sub>	4-Chlorobenzeneacetic acid		25	4.19
C <sub>7</sub> H <sub>8</sub> OS	4-(Methylthio)phenol		25	9.53	C <sub>8</sub> H <sub>7</sub> ClO <sub>3</sub>	2-Chlorophenoxyacetic acid		25	3.05
$C_7H_8O_2$	2-Methoxyphenol		25	9.98	C <sub>8</sub> H <sub>7</sub> ClO <sub>3</sub>	3-Chlorophenoxyacetic acid		25	3.10
$C_7^{}H_8^{}O_2^{}$	3-Methoxyphenol		25	9.65	C <sub>8</sub> H <sub>7</sub> NO <sub>4</sub>	2-Nitrobenzeneacetic acid		25	4.00
$C_7^{}H_8^{}O_2^{}$	4-Methoxyphenol		25	10.21	C <sub>8</sub> H <sub>7</sub> NO <sub>4</sub>	3-Nitrobenzeneacetic acid		25	3.97
$C_7^{H_8}S$	Benzenemethanethiol		25	9.43	C <sub>8</sub> H <sub>7</sub> NO <sub>4</sub>	4-Nitrobenzeneacetic acid		25	3.85
$C_7 H_9 N$	Benzylamine		25	9.34	$C_8H_8F_3N_3O_4S_2$	Hydroflumethiazide	1		8.9

Mol. form.	Name	Step	t/°C	<b>p</b> <i>K</i> <sub>a</sub>	Mol. form.	Name	Step	t/°C	p <i>K</i> <sub>a</sub>
$C_8H_8N_2$	2-Methyl-1 <i>H</i> -benzimidazole	2 1	25	9.7 6.19	C <sub>8</sub> H <sub>16</sub> N <sub>2</sub> O <sub>4</sub> S <sub>2</sub>	Homocystine	2 1	25 25	8.2 1.59
	o-Toluic acid	1	25 25	3.91	$C_8^{11}_{16}^{10}_{16}^{10}_{2}^{10}_{4}^{10}_{2}^{10}_{4}^{10}_{2}^{10}_{10}^{10}_$	Tomocystine	2	25 25	2.54
$C_8H_8O_2$									
C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	<i>m</i> -Toluic acid		25	4.25			3	25	8.52
$C_8H_8O_2$	<i>p</i> -Toluic acid		25	4.37	a		4	25	9.44
$C_8H_8O_2$	Benzeneacetic acid		25	4.31	$C_8H_{16}O_2$	Octanoic acid		25	4.89
$C_8H_8O_2$	1-(2-Hydroxyphenyl)ethanone		25	10.06	$C_8 H_{16} O_2$	2-Propylpentanoic acid			4.6
$C_8H_8O_2$	1-(3-Hydroxyphenyl)ethanone		25	9.19	C <sub>8</sub> H <sub>17</sub> N	2-Propylpiperidine,(S)			10.9
$C_8H_8O_2$	1-(4-Hydroxyphenyl)ethanone		25	8.05	C <sub>8</sub> H <sub>17</sub> N	2,2,4-Trimethylpiperidine		30	11.04
$C_8H_8O_3$	2-Methoxybenzoic acid		25	4.08	C <sub>8</sub> H <sub>17</sub> NO	trans-6-Propyl-3-			10.3
$C_8H_8O_3$	3-Methoxybenzoic acid		25	4.10		piperidinol,(3S)			
$C_8H_8O_3$	4-Methoxybenzoic acid		25	4.50	$C_8 H_{19} N$	Octylamine		25	10.65
$C_8H_8O_3$	Phenoxyacetic acid		25	3.17	$C_8 H_{19} N$	N-Methyl-2-heptanamine		17	10.99
$C_8H_8O_3$	Mandelic acid		25	3.37	C <sub>8</sub> H <sub>19</sub> N	Dibutylamine		21	11.25
$C_8H_8O_4$	2,5-Hydroxybenzeneacetic		25	4.40	$C_8^{15}N_2$	1,8-Octanediamine	1	20	11.00
8 8 4	acid				8 20 2		2	20	10.1
$C_sH_aNO$	Acetanilide		25	0.5	C <sub>o</sub> H <sub>e</sub> BrN	3-Bromoquinoline		25	2.69
$C_8H_9NO_2$	2-(Methylamino)benzoic		25	5.34	C <sub>9</sub> H <sub>7</sub> ClO <sub>2</sub>	trans-o-Chlorocinnamic		25	4.23
	acid				, , ,	acid			
C <sub>8</sub> H <sub>9</sub> NO <sub>2</sub>	3-(Methylamino)benzoic acid		25	5.10	C <sub>9</sub> H <sub>7</sub> ClO <sub>2</sub>	<i>trans-m-</i> Chlorocinnamic acid		25	4.29
C <sub>8</sub> H <sub>9</sub> NO <sub>2</sub>	4-(Methylamino)benzoic acid		25	5.04	C <sub>9</sub> H <sub>7</sub> ClO <sub>2</sub>	trans-p-Chlorocinnamic acid		25	4.41
$C_8H_9NO_2$	N-Phenylglycine	1	25	1.83	C <sub>0</sub> H <sub>2</sub> N	Quinoline		20	4.90
0 7 2		2		4.39	C <sub>o</sub> H <sub>z</sub> N	Isoquinoline		20	5.40
$C_8H_{10}BrN$	4-Bromo- <i>N,N</i> -		25	4.23	C <sub>9</sub> H <sub>2</sub> NO	2-Quinolinol	1	20	-0.31
8 10	dimethylaniline				, ,	-	2	20	11.76
$C_8H_{10}ClN$	3-Chloro- <i>N,N</i> -		20	3.83	C <sub>o</sub> H <sub>2</sub> NO	3-Quinolinol	1	20	4.28
-810	dimethylaniline				-97	- 2	2	20	8.08
C <sub>8</sub> H <sub>10</sub> ClN	4-Chloro- <i>N</i> , <i>N</i> -		20	4.39	C₀H₂NO	4-Quinolinol	1	20	2.23
0 <sub>8</sub> 11 <sub>10</sub> 0111	dimethylaniline		20	1.07	0917110	1 Quinomioi	2	20	11.28
CHNO	•		25	2.62	C₀H₂NO	6-Quinolinol	1	20	5.15
$C_8H_{10}N_2O_2$	N,N-Dimethyl-3-		23	2.02	C <sub>9</sub> 11 <sub>7</sub> 11O	o-Quinoinioi	2	20	
CHA	nitroaniline		25	F 10	CHNO	0. O. i 1:1			8.90
C <sub>8</sub> H <sub>11</sub> N	N-Ethylaniline		25	5.12	C <sub>9</sub> H <sub>7</sub> NO	8-Quinolinol	1	25	4.91
$C_8H_{11}N$	<i>N,N</i> -Dimethylaniline		25	5.07	GHANG		2	25	9.81
$C_8H_{11}N$	2,6-Dimethylaniline		25	3.89	C <sub>9</sub> H <sub>7</sub> NO	7-Isoquinolinol	1	20	5.68
$C_8H_{11}N$	Benzeneethanamine		25	9.83			2	20	8.90
$C_8H_{11}N$	2,4,6-Trimethylpyridine		25	7.43	C <sub>9</sub> H <sub>7</sub> NO <sub>3</sub>	2-Cyanophenoxyacetic acid		25	2.98
$C_8H_{11}NO$	2-Ethoxyaniline		28	4.43	C <sub>9</sub> H <sub>7</sub> NO <sub>3</sub>	3-Cyanophenoxyacetic acid		25	3.03
$C_8H_{11}NO$	3-Ethoxyaniline		25	4.18	C <sub>9</sub> H <sub>7</sub> NO <sub>3</sub>	4-Cyanophenoxyacetic acid		25	2.93
$C_8H_{11}NO$	4-Ethoxyaniline		28	5.20	C <sub>9</sub> H <sub>7</sub> N <sub>7</sub> O <sub>2</sub> S	Azathioprine			8.2
$C_8H_{11}NO$	4-(2-Aminoethyl)phenol	1	25	9.74	$C_9H_8N_2$	2-Quinolinamine		20	7.34
		2	25	10.52	$C_{9}H_{8}N_{2}$	3-Quinolinamine		20	4.91
$C_8H_{11}NO$	2-(2-Methoxyethyl)pyridine			5.5	C <sub>9</sub> H <sub>8</sub> N <sub>2</sub>	4-Quinolinamine		20	9.17
$C_8^8 H_{11}^{11} NO_2$	Dopamine	1	25	8.9	$C_9H_8N_2$	1-Isoquinolinamine		20	7.62
8 11 - 2	F	2	25	10.6	$C_9H_8N_2$	3-Isoquinolinamine		20	5.05
$C_8H_{11}NO_3$	Norepinephrine	1	25	8.64	$C_9H_8O_2$	cis-Cinnamic acid		25	3.88
0 <sub>8</sub> 11 <sub>11</sub> 110 <sub>3</sub>	тогерипериине	2	25	9.70	$C_9H_8O_2$ $C_9H_8O_2$	trans-Cinnamic acid		25	4.44
CHNO	6-Azauridine	2	23	6.70	, , , ,			23	4.35
$C_8H_{11}N_3O_6$					$C_9H_8O_2$	α-Methylenebenezene-			4.55
$C_8H_{11}N_5$	Phenylbiguanide	1		10.76	G II O	acetic acid		0.5	0.40
		2		2.13	C <sub>9</sub> H <sub>8</sub> O <sub>4</sub>	2-(Acetyloxy)benzoic acid		25	3.48
$C_8 H_{12} N_2 O_3$	Barbital		25	7.43	$C_9H_9Br_2NO_3$	3,5-Dibromo- <i>L</i> -tyrosine	1		2.17
$C_8H_{12}O_2$	5,5-Dimethyl-1,3-		25	5.15			2		6.45
	cyclohexanedione						3		7.60
$C_8H_{13}NO_2$	Arecoline			6.84	C <sub>9</sub> H <sub>9</sub> ClO <sub>2</sub>	3-(2-Chlorophenyl)-		25	4.58
$C_8^{}H_{14}^{}O_2^{}S_2^{}$	Thioctic acid			5.4		propanoic acid			
$C_8H_{14}O_4$	Octanedioic acid	1	25	4.52	C <sub>9</sub> H <sub>9</sub> ClO <sub>2</sub>	3-(3-Chlorophenyl)-		25	4.59
$C_8^{14}$ NO	Tropine		15	3.80		propanoic acid			
$C_8^{\circ}H_{15}^{15}NO$	Pseudotropine		15	3.80	C <sub>o</sub> H <sub>o</sub> ClO <sub>2</sub>	3-(4-Chlorophenyl)-		25	4.61
$C_8^8 H_{16}^{15} N_2 O_3$	N-Glycylleucine		25	3.18	, , , ,	propanoic acid			
$C_8^8 H_{16}^{16} N_2^2 O_3^3$	N-Leucylglycine	1	25	3.25	C <sub>9</sub> H <sub>9</sub> I <sub>2</sub> NO <sub>3</sub>	L-3,5-Diiodotyrosine	1	25	2.12
8 16 Z 3					9 9 2 3	,			

Mol. form.	Name	Step	t/°C	p <i>K</i> <sub>a</sub>	Mol. form.	Name	Step	t/°C	p <i>K</i> <sub>a</sub>
		2	25	5.32	C <sub>10</sub> H <sub>8</sub> O	1-Naphthol		25	9.39
CHNO	M. Doma oul alusino	3	25 25	9.48 3.62	C <sub>10</sub> H <sub>8</sub> O	2-Naphthol		25 25	9.63 3.92
C <sub>9</sub> H <sub>9</sub> NO <sub>3</sub> C <sub>9</sub> H <sub>9</sub> NO <sub>4</sub>	N-Benzoylglycine		25 25	4.50	$C_{10}H_{9}N$ $C_{10}H_{9}N$	1-Naphthylamine 2-Naphthylamine		25 25	4.16
C <sub>9</sub> 11 <sub>9</sub> 1 <b>1</b> O <sub>4</sub>	3-(2-Nitrophenyl)- propanoic acid		23	4.50	$C_{10}H_{9}N$	2-Naphthylammic 2-Methylquinoline		20	5.83
C <sub>9</sub> H <sub>9</sub> NO <sub>4</sub>	3-(4-Nitrophenyl)-		25	4.47	$C_{10}H_{9}N$	4-Methylquinoline		20	5.67
-994	propanoic acid				$C_{10}H_9N$	5-Methylquinoline		20	5.20
$C_9H_9N_3O_2$	Carbendazim			4.48	C <sub>10</sub> H <sub>9</sub> NO	5-Amino-1-naphthol		25	3.97
$C_9H_9N_3O_2S_2$	Sulfathiazole			7.2	C <sub>10</sub> H <sub>9</sub> NO	6-Methoxyquinoline		20	5.03
$C_9H_{10}INO_3$	L-3-Iodotyrosine	1	25	2.2	$C_{10}H_9NO_2$	1H-Indole-3-acetic acid			4.75
		2	25	8.7	$C_{10}H_{10}O_{2}$	o-Methylcinnamic acid		25	4.50
		3	25	9.1	$C_{10}H_{10}O_{2}$	m-Methylcinnamic acid		25	4.44
$C_9 H_{10} N_2$	2-Ethylbenzimidazole		25	6.18	$C_{10}H_{10}O_{2}$	<i>p</i> -Methylcinnamic acid		25	4.56
$C_9H_{10}O_2$	3,5-Dimethylbenzoic acid		25	4.32	$C_{10}H_{12}N_2$	Tryptamine		25	10.2
$C_9H_{10}O_2$	Benzenepropanoic acid		25	4.66	$C_{10}H_{12}N_{2}O$	5-Hydroxytryptamine	1	25	9.8
$C_9H_{10}O_2$	α-Methylbenzeneacetic acid		25 25	4.64	CHNO	Dinoseb	2	25	11.1 4.62
$C_9H_{10}O_3$	α-Hydroxy-α-methyl- benezeneacetic acid		25	3.47	$C_{10}H_{12}N_2O_5$	Dideoxyinosine			9.12
C <sub>9</sub> H <sub>11</sub> Cl <sub>2</sub> N <sub>3</sub> O <sub>4</sub> S <sub>2</sub>	Methylclothiazide			9.4	$C_{10}H_{12}N_4O_3$ $C_{10}H_{12}O$	5,6,7,8-Tetrahydro-2-		25	10.48
$C_9H_{11}N$	N-Allylaniline		25	4.17	01011120	naphthalenol		23	10.40
$C_9H_{11}N$	1-Indanamine		22	9.21	C <sub>10</sub> H <sub>12</sub> O <sub>2</sub>	Benzenebutanoic acid		25	4.76
$C_9H_{11}NO_2$	4-(Dimethylamino)-	1		6.03	$C_{10}H_{12}O_5$	Propyl 3,4,5-trihydroxy-			8.11
9 11 - 2	benzoic acid	2		11.49	10 12 5	benzoate			
$C_9H_{11}NO_2$	Ethyl 4-aminobenzoate			2.5	C <sub>10</sub> H <sub>13</sub> N <sub>5</sub> O <sub>4</sub>	Adenosine	1	25	3.6
$C_9H_{11}NO_2$	<i>L</i> -Phenylalanine	1	25	2.20	10 13 3 4		2	25	12.4
, 2		2	25	9.31	$C_{10}H_{14}N_2$	L-Nicotine	1		8.02
$C_9H_{11}NO_3$	<i>L</i> -Tyrosine	1	25	2.20			2		3.12
		2	25	9.11	$C_{10}H_{14}N_{5}O_{7}P$	5'-Adenylic acid	1		3.8
		3	25	10.1			2		6.2
$C_9H_{11}NO_4$	Levodopa	1	25	2.32	$C_{10}H_{14}O$	2-tert-Butylphenol		25	10.62
		2	25	8.72	$C_{10}H_{14}O$	3-tert-Butylphenol		25	10.12
		3	25	9.96	C <sub>10</sub> H <sub>14</sub> O	4-tert-Butylphenol		25	10.23
CHNO	Tyrosineamide	4	25 25	11.79 7.33	$C_{10}H_{15}N$	<i>N-tert</i> -Butylaniline <i>N,N</i> -Diethylaniline		25 25	7.00 6.57
$C_9H_{12}N_2O_2$ $C_9H_{13}N$	N-Isopropylaniline		25 25	7.33 5.77	$C_{10}H_{15}N$ $C_{10}H_{15}NO$	<i>d</i> -Ephedrine		10	10.139
$C_9H_{13}NO_3$	Epinephrine	1	25	8.66	$C_{10}H_{15}NO$	<i>l</i> -Ephedrine		10	9.958
0911131103	Бригериние	2	25	9.95	$C_{10}H_{17}N_3O_6S$	<i>l</i> -Glutathione	1	25	2.12
$C_9H_{13}N_2O_9P$	5'-Uridylic acid	1		6.4	10-17-3-6-		2	25	3.59
9 13 2 9	,	2		9.5			3	25	8.75
$C_9H_{13}N_3O_5$	Cytidine	1		4.22			4	25	9.65
		2		12.5	$C_{10}H_{18}N_4O_5$	L-Argininosuccinic acid	1	25	1.62
C <sub>9</sub> H <sub>14</sub> ClNO	Phenylpropanolamine			9.44			2	25	2.70
	hydrochloride						3	25	4.26
$C_9H_{14}N_2O_3$	Metharbital			8.45			4	25	9.58
$C_9H_{14}N_3O_8P$	3'-Cytidylic acid	1		0.8	$C_{10}H_{18}O_4$	Sebacic acid	1		4.59
		2		4.28	G 11 31	n I i	2	0.5	5.59
CHNO	C	3	20	6.0	$C_{10}H_{19}N$	Bornylamine		25	10.17
$C_9H_{14}N_4O_3$	Carnosine	1 2	20 20	2.73 6.87	$C_{10}H_{19}N$	Neobornylamine Butylcyclohexylamine		25 25	10.01 11.23
		3	20	9.73	$C_{10}H_{21}N$ $C_{10}H_{21}N$	1,2,2,6,6-Pentamethyl-		30	11.25
C <sub>9</sub> H <sub>15</sub> NO <sub>3</sub> S	Captopril	1	20	3.7	10112111	piperidine		30	11.25
-915 <sup>2</sup> · • 3	L == L===	2		9.8	C <sub>10</sub> H <sub>23</sub> N	Decylamine		25	10.64
$C_9H_{15}N_5O$	Minoxidil	=		4.61	$C_{11}H_8N_2$	1 <i>H</i> -Perimidine		20	6.35
$C_9H_{16}O_4$	Nonanedioic acid	1	25	4.53	$C_{11}H_8O_2$	1-Naphthalenecarboxylic		25	3.69
7 10 4		2	25	5.33	11 0 2	acid			
$C_{9}H_{18}O_{2}$	Nonanoic acid		25	4.96	$C_{11}H_8O_2$	2-Naphthalenecarboxylic		25	4.16
$C_9H_{19}N^2$	N-Butylpiperidine		23	10.47		acid			
$C_9H_{19}N$	2,2,6,6-Tetramethyl-		25	11.07	$C_{11}H_{11}N$	Methyl-1-naphthylamine		27	3.67
	piperidine				$C_{11}H_{12}I_3NO_2$	Iopanoic acid			4.8
$C_9H_{21}N$	Nonylamine		25	10.64	$C_{11}H_{12}N_{2}O_{2}$	<i>L-</i> Tryptophan	1	25	2.46
$C_{10}H_7NO_2$	8-Quinolinecarboxylic acid		25	1.82	I		2	25	9.41

Mol. form.	Name	Step	t/°C	$pK_{_a}$	Mol. form.	Name	Step	t/°C	р <i>К</i> ,
$C_{11}H_{12}N_4O_3S$	Sulfamethoxypyridazine			6.7	$C_{13}H_{10}O_2$	2-Phenylbenzoic acid	_	25	3.46
$C_{11}H_{13}F_{3}N_{2}O_{3}S$	Mefluidide			4.6	$C_{13}^{13}H_{10}^{10}O_3$	2-Phenoxybenzoic acid		25	3.53
$C_{11}H_{13}NO_3$	Hydrastinine			11.38	$C_{13}H_{10}O_3$	3-Phenoxybenzoic acid		25	3.95
$C_{11}H_{13}N_3O_3S$	Sulfisoxazole			5	$C_{13}H_{10}O_3$	4-Phenoxybenzoic acid		25	4.57
$C_{11}H_{14}N_2O$	Cytisine	1		6.11	$C_{13}H_{11}N_3$	3,6-Acridinediamine		20	9.65
2		2		13.08	$C_{13}H_{12}Cl_2O_4$	Ethacrynic acid			3.50
$C_{11}H_{14}O_{2}$	2-tert-Butylbenzoic acid		25	3.54	$C_{13}H_{12}N_2O$	Harmine			7.70
$C_{11}H_{14}O_2$	3-tert-Butylbenzoic acid		25	4.20	$C_{13}H_{12}N_2O_3S$	Sulfabenzamide		25	4.57
$C_{11}H_{14}O_2$	4-tert-Butylbenzoic acid		25	4.38	$C_{13}H_{13}N$	4-Benzylaniline		25	2.17
$C_{11}H_{16}N_2O_2$	Pilocarpine	1	25	1.6	$C_{13}H_{14}N_2O_{13}$	Harmaline			4.2
		2	25	6.9	$C_{13}H_{15}N_3O_3$	Imazapyr	1		1.9
$C_{11}H_{16}N_4O_4$	Pentostatin			5.2			2		3.6
$C_{11}H_{17}N$	N,N-Diethyl-2-methyl-		25	7.24	C <sub>13</sub> H <sub>16</sub> ClNO	Ketamine			7.5
	aniline				$C_{13}H_{19}NO_4S$	4-[(Dipropylamino)-			5.8
$C_{11}H_{17}NO_{3}$	Isoproterenol			8.64		sulfonyl]benzoic acid			
$C_{11}H_{17}N_3O_8$	Tetrodotoxin			8.76	$C_{13}H_{21}N$	2,6-Di-tert-butylpyridine			3.58
$C_{11}H_{18}CINO_3$	Methoxamine hydrochloride		25	9.2	$C_{13}H_{29}N$	(Tridecyl)amine		25	10.63
$C_{11}H_{18}N_2O_3$	Amobarbital		25	8.0	$C_{14}H_{12}F_3NO_4S_2$	Perfluidone			2.5
$C_{11}H_{25}N$	Undecylamine		25	10.63	$C_{14}H_{12}O_{2}$	α-Phenylbenzeneacetic acid		25	3.94
$C_{11}H_{26}NO_2PS$	Methylphosphonothioic acid <i>S</i> [2-[bis(1-isopropyl)amino]-			7.9	$C_{14}H_{12}O_3$	α-Hydroxy- <b>α</b> -phenyl- benezeneacetic acid		25	3.04
C H Cl O C	ethyl], O-ethylester			4.00	C <sub>14</sub> H <sub>18</sub> N <sub>4</sub> O <sub>3</sub>	Trimethoprim			6.6
$C_{12}H_6Cl_4O_2S$	Bithionol	1		4.82	C <sub>14</sub> H <sub>19</sub> NO <sub>2</sub>	Methylphenidate		0.5	8.9
G III	1.10 Pl	2	0.5	10.50	C <sub>14</sub> H <sub>21</sub> N <sub>3</sub> O <sub>3</sub> S	Tolazamide		25	3.6
$C_{12}H_8N_2$	1,10-Phenanthroline		25	4.84	C <sub>14</sub> H <sub>22</sub> N <sub>2</sub> O <sub>3</sub>	Atenolol		0.5	9.6
$C_{12}H_8N_2$	Phenazine		20	1.20	C <sub>14</sub> H <sub>31</sub> N	Tetradecylamine		25	10.62
$C_{12}H_{10}O$	2-Hydroxybiphenyl		25	10.01	C <sub>15</sub> H <sub>10</sub> ClN <sub>3</sub> O <sub>3</sub>	Clonazepam	1		1.5
$C_{12}H_{10}O$	3-Hydroxybiphenyl		25	9.64	G 11 1 1 1 1 0		2	0.5	10.5
$C_{12}H_{10}O$	4-Hydroxybiphenyl		25	9.55	$C_{15}H_{11}I_4NO_4$	<i>L</i> -Thyroxine	1	25	2.2
$C_{12}H_{11}N$	Diphenylamine		25	0.79			2	25	6.45
$C_{12}H_{11}N$	2-Aminobiphenyl		25	3.83		T	3	25	10.1
$C_{12}H_{11}N$	3-Aminobiphenyl		18	4.25	$C_{15}H_{14}O_3$	Fenoprofen			7.3
$C_{12}H_{11}N$	4-Aminobiphenyl		18	4.35	C <sub>15</sub> H <sub>15</sub> NO <sub>2</sub>	Mefenamic acid			4.2
$C_{12}H_{11}N$	2-Benzylpyridine		25	5.13	$C_{15}H_{15}N_3O_2$	Methyl Red	1		2.5
$C_{12}H_{11}N_3$	4-Aminoazobenzene		25	2.82	G II GNI	ar i In I	2		9.5
$C_{12}H_{12}N_2$	<i>p</i> -Benzidine	1	20	4.65	C <sub>15</sub> H <sub>17</sub> ClN <sub>4</sub>	NeutralRed		1.5	6.7
G 11 11 0	DI 1 1 1 1 1	2	20	3.43	C <sub>15</sub> H <sub>19</sub> NO <sub>2</sub>	Tropacocaine		15	4.32
$C_{12}H_{12}N_2O_3$	Phenobarbital	1		7.3	$C_{15}H_{19}N_3O_3$	Imazethapyr	1		2.1
G 11 1 1 1 0		2		11.8		DI	2		3.9
$C_{12}H_{13}I_{3}N_{2}O_{3}$	Iocetamic acid		0.5	4	$C_{15}H_{21}N_3O_2$	Physostigmine	1		6.12
$C_{12}H_{13}N$	N,N-Dimethyl-1-		25	4.83		<i>a</i>	2	00	12.24
CHA	naphthylamine		25	4.566	$C_{15}H_{26}N_2$	Sparteine	1	20	2.24
$C_{12}H_{13}N$	N,N-Dimethyl-2-		25	4.566	CHA	D (   1 )	2	20	9.46
CHNOC	naphthylamine			7.4	C <sub>15</sub> H <sub>33</sub> N	Pentadecylamine		25	10.61
$C_{12}H_{14}N_4O_2S$	Sulfamethazine	1		7.4	C <sub>16</sub> H <sub>13</sub> ClN <sub>2</sub> O	Valium			3.4
CHNOC	C IC	2		2.65	C <sub>16</sub> H <sub>14</sub> ClN <sub>3</sub> O	Chlorodiazepoxide			4.8
$C_{12}H_{14}N_4O_3S$	Sulfacytine			6.9	$C_{16}H_{16}N_{2}O_{2}$	Lysergic acid	1		3.44
$C_{12}H_{17}N_3O_4$	Agaritine	1		3.4	CHNOC	Cambalania	2		7.68
CHNO	A:11:: 1	2		8.86	$C_{16}H_{17}N_3O_4S$	Cephalexin	1		5.2
$C_{12}H_{20}N_2O_2$	Aspergillic acid Nizatidine	1		5.5	CHNOC	Cambana dina	2		7.3
$C_{12}H_{21}N_5O_2S_2$	Nizatidine	1		2.1	$C_{16}H_{19}N_3O_4S$	Cephradine	1		2.63
C II O	C	2	25	6.8	CHA	T 1.	2		7.27
$C_{12}H_{22}O_{11}$	Sucrose		25	12.7	$C_{16}H_{22}N_2$	Lycodine	1		3.97
$C_{12}H_{22}O_{11}$	α-Maltose		21	12.05	CILN	House do out : :	2	25	8.08
$C_{12}H_{23}N$	Dicyclohexylamine		25	10.4	C <sub>16</sub> H <sub>35</sub> N	Hexadecylamine	1	25	10.61
$C_{12}H_{27}N$	Dodecylamine		25	10.63	$C_{17}H_{17}NO_2$	Apomorphine	1		7.0
$C_{13}H_9N$	Acridine		20	5.58	CHAO	Dimonino	2	10	8.92
$C_{13}H_9N$	Phenanthridine		20	5.58	$C_{17}H_{19}NO_3$	Piperine	1	18	12.22
$C_{13}H_{10}N_{2}$	9-Acridinamine		20	9.99	$C_{17}H_{19}NO_3$	Morphine	1	25	8.21
$C_{13}^{}H_{10}^{}N_{2}^{}$	2-Phenylbenzimidazole	1	25	5.23	CHNO	Dib offerin	2	20	9.85
		2	25	11.91	$C_{17}H_{20}N_4O_6$	Riboflavin	1		1.7

Mol. form.	Name	Step	t/°C	$pK_{_{a}}$	Mol. form.	Name	Step	t/°C	$pK_{a}$
		2	25	9.69	C <sub>21</sub> H <sub>23</sub> ClFNO <sub>2</sub>	Haloperidol	-		8.3
$C_{17}H_{20}O_{6}$	Mycophenolic acid			4.5	C <sub>21</sub> H <sub>31</sub> NO <sub>4</sub>	Furethidine			7.48
$C_{17}H_{23}NO_3$	Hyoscyamine		21	9.7	C <sub>21</sub> H <sub>35</sub> N <sub>3</sub> O <sub>7</sub>	Lisinopril	1		2.5
$C_{17}H_{27}NO_4$	Nadolol			9.67	21 33 3 ,		2		4.0
$C_{18}H_{19}ClN_4$	Clozapine	1		3.70			3		6.7
10 17 1		2		7.60			4		10.1
$C_{18}H_{21}NO_{3}$	Codeine			8.21	$C_{22}H_{18}O_4$	o-Cresolphthalein			9.4
$C_{18}H_{21}N_3O$	Dibenzepin			8.25	C <sub>22</sub> H <sub>22</sub> FN <sub>3</sub> O <sub>2</sub>	Droperidol			7.64
$C_{18}H_{32}O_{2}$	Linoleic acid			7.6	$C_{22}H_{23}NO_{7}$	Noscapine			7.8
$C_{18}H_{33}ClN_2O_5S$	Clindamycin			7.6	$C_{22}H_{25}NO_{6}$	Colchicine		20	12.36
$C_{18}H_{39}N$	Octadecylamine		25	10.60	$C_{22}H_{25}N_{3}O$	Benzpiperylon	1		6.73
$C_{19}H_{10}Br_4O_5S$	Bromophenol Blue			4.0			2		9.13
$C_{19}H_{14}O_{5}S$	Phenol Red			7.9	C <sub>22</sub> H <sub>33</sub> NO <sub>2</sub>	Atisine			12.2
$C_{19}H_{16}CINO_4$	Indomethacin			4.5	$C_{23}H_{26}N_2O_4$	Brucine	1		6.04
$C_{19}H_{17}N_3O_4S_2$	Cephaloridine			3.2			2		11.07
$C_{19}H_{20}N_2O_2$	Phenylbutazone			4.5	$C_{24}H_{40}O_4$	Deoxycholic acid			6.58
$C_{19}H_{21}N$	Protriptyline			8.2	$C_{24}H_{40}O_{5}$	Cholic acid			6.4
$C_{19}H_{21}NO_{3}$	Thebaine		15	6.05	$C_{25}H_{29}I_{2}NO_{3}$	Amiodarone		25	6.56
$C_{19}H_{22}N_2O$	Cinchonine	1		5.85	$C_{25}H_{41}NO_{9}$	Aconine			9.52
		2		9.92	C <sub>26</sub> H <sub>43</sub> NO <sub>6</sub>	Glycocholic acid			4.4
$C_{19}H_{22}N_2O$	Cinchonidine	1		5.80	C <sub>26</sub> H <sub>45</sub> NO <sub>7</sub> S	Taurocholic acid			1.4
		2		10.03	$C_{27}H_{28}Br_2O_5S$	Bromothymol Blue			7.0
$C_{19}H_{22}N_2O_2$	Cupreine			6.57	$C_{27}H_{38}N_2O_4$	Verapamil			8.6
$C_{19}H_{22}O_{6}$	Gibberellic acid			4.0	$C_{29}H_{32}O_{13}$	Etoposide			9.8
$C_{19}H_{23}N_3O_2$	Ergometrinine			7.3	$C_{29}H_{40}N_{2}O_{4}$	Emetine	1		5.77
$C_{19}H_{23}N_3O_2$	Ergonovine			6.8			2		6.64
$C_{20}H_{14}O_4$	Phenolphthalein		25	9.7	$C_{30}H_{23}BrO_4$	Bromadiolone		21	4.04
$C_{20}H_{21}NO_4$	Papaverine			6.4	$C_{30}H_{48}O_3$	Oleanolic acid			2.52
$C_{20}H_{23}N$	Amitriptyline			9.4	$C_{31}H_{36}N_2O_{11}$	Novobiocin	1		4.3
$C_{20}H_{23}N_{7}O_{7}$	Folinic acid	1		3.1			2		9.1
		2		4.8	$C_{32}H_{32}O_{13}S$	Teniposide			10.13
		3		10.4	$C_{33}H_{40}N_{2}O_{9}$	Reserpine			6.6
$C_{20}H_{24}N_2O_2$	Quinine	1	25	8.52	C <sub>34</sub> H <sub>47</sub> NO <sub>11</sub>	Aconitine			5.88
		2	25	4.13	C <sub>36</sub> H <sub>51</sub> NO <sub>11</sub>	Veratridine			9.54
$C_{20}H_{24}N_2O_2$	Quinidine	1	20	5.4	C <sub>37</sub> H <sub>67</sub> NO <sub>13</sub>	Erythromycin			8.8
		2	20	10.0	$C_{43}H_{58}N_4O_{12}$	Rifampin	1		1.7
$C_{20}H_{26}N_2O_2$	Hydroquinine			5.33			2		7.9
$C_{21}H_{14}Br_4O_5S$	Bromocresol Green			4.7	$C_{45}H_{73}NO_{15}$	Solanine		15	6.66
$C_{21}H_{16}Br_2O_5S$	Bromocresol Purple			6.3	$C_{46}H_{56}N_4O_{10}$	Vincristine			5.4
$C_{21}H_{18}O_{5}S$	CresolRed			8.3	$C_{46}H_{58}N_4O_9$	Vinblastine	1		5.4
$C_{21}H_{21}NO_6$	Hydrastine			7.8			2		7.4
$C_{21}H_{22}N_2O_2$	Strychnine		25	8.26	I				