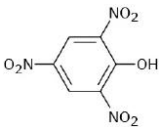
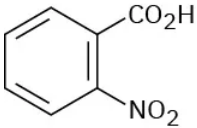
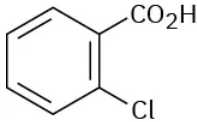
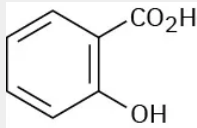

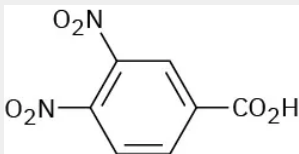
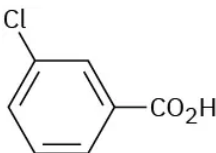
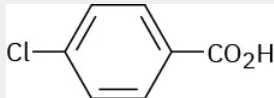
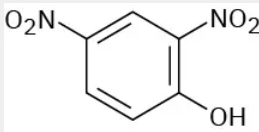
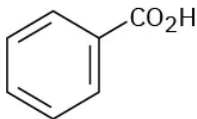
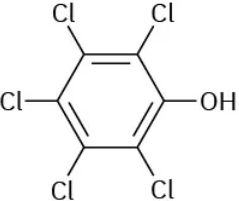
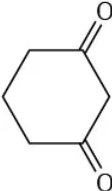
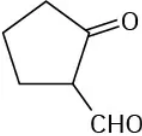
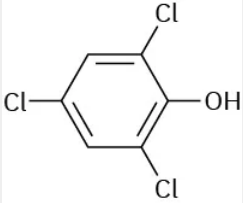


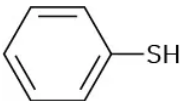
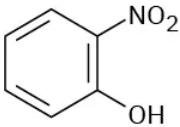
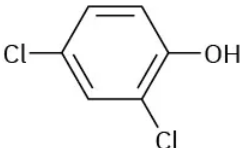
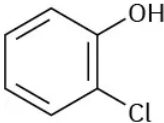
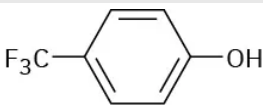
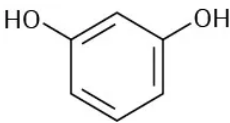
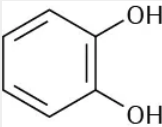
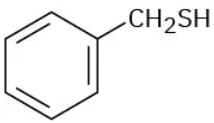
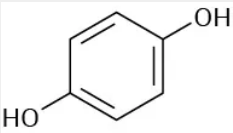
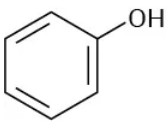
Appendix B - Acidity Constants for Some Organic Compounds

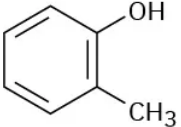

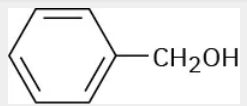
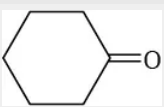
Table B1: Acidity Constants for Some Organic Compounds

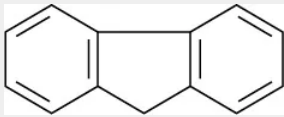
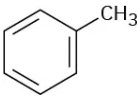

Compound	pK _a
CH ₃ SO ₃ H	-1.8
CH(NO ₂) ₃	0.1
	0.3
CCl ₃ CO ₂ H	0.5
CF ₃ CO ₂ H	0.5
CBr ₃ CO ₂ H	0.7
HO ₂ CC ≡ CCO ₂ HHO ₂ CC ≡ CCO ₂ H	1.2; 2.5
HO ₂ CCO ₂ H	1.2; 3.7
CHCl ₂ CO ₂ H	1.3
CH ₂ (NO ₂)CO ₂ H	1.3
HC≡	
CCO ₂ HHC ≡ CCO ₂ H	1.9
(Z)	
HO ₂ CCCH = CHCO ₂ HHO ₂ CCCH = CHCO ₂ H	1.9; 6.3
	2.4
CH ₃ COCO ₂ H	2.4
NCCH ₂ CO ₂ H	2.5
CH ₃ C ≡ CCO ₂ HCH ₃ C ≡ CCO ₂ H	2.6
CH ₂ FCO ₂ H	2.7
CH ₂ ClCO ₂ H	2.8

Compound	pK _a
HO ₂ CCH ₂ CO ₂ H	2.8; 5.6
CH ₂ BrCO ₂ H	2.9
	3.0
	3.0
CH ₂ ICO ₂ H	3.2
CHOCO ₂ H	3.2
	3.4
	3.5
HSCH ₂ CO ₂ H	3.5; 10.2
CH ₂ (NO ₂) ₂	3.6
CH ₃ OCH ₂ CO ₂ H	3.6
CH ₃ COCH ₂ CO ₂ H	3.6
HOCH ₂ CO ₂ H	3.7
HCO ₂ H	3.7
	3.8
	4.0
CH ₂ BrCH ₂ CO ₂ H	4.0
	4.1
	4.2

Compound	pK _a
$\text{H}_2\text{C}=\text{CHCO}_2\text{HH}_2\text{C}=\text{CHCO}_2\text{H}$	4.2
$\text{HO}_2\text{CCH}_2\text{CH}_2\text{CO}_2\text{H}$	4.2; 5.7
$\text{HO}_2\text{CCH}_2\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$	4.3; 5.4
	4.5
$\text{H}_2\text{C}=\text{C}(\text{CH}_3)\text{CO}_2\text{HH}_2\text{C}=\text{C}(\text{CH}_3)\text{CO}_2\text{H}$	4.7
$\text{CH}_3\text{CO}_2\text{H}$	4.8
$\text{CH}_3\text{CH}_2\text{CO}_2\text{H}$	4.8
$(\text{CH}_3)_3\text{CCO}_2\text{H}$	5.0
$\text{CH}_3\text{COCH}_2\text{NO}_2$	5.1
	5.3
$\text{O}_2\text{NCH}_2\text{CO}_2\text{CH}_3$	5.8
	5.8
	6.2

Compound	pK _a
	6.6
HCO ₃ H	7.1
	7.2
(CH ₃) ₂ CHNO ₂	7.7
	7.8
CH ₃ CO ₃ H	8.2
	8.5
CH ₃ CH ₂ NO ₂	8.5
	8.7
CH ₃ COCH ₂ COCH ₃	9.0
	9.3; 11.1
	9.3; 12.6
	9.4
	9.9; 11.5
	9.9
CH ₃ COCH ₂ SOCH ₃	10.0

Compound	pK _a
	10.3
CH ₃ NO ₂	10.3
CH ₃ SH	10.3
CH ₃ COCH ₂ CO ₂ CH ₃	10.6
CH ₃ COCHO	11.0
CH ₂ (CN) ₂	11.2
CCl ₃ CH ₂ OH	12.2
Glucose	12.3
([Math Processing Error] CH ₃) ₂ C= NOH (CH ₃) ₂ C= NOH	12.4
CH ₂ (CO ₂ CH ₃) ₂	12.9
CHCl ₂ CH ₂ OH	12.9
CH ₂ (OH) ₂	13.3
HOCH ₂ CH(OH)CH ₂ OH	14.1
CH ₂ ClCH ₂ OH	14.3
	15.0
	15.4
CH ₃ OH	15.5
H ₂ C = CHCH ₂ OH H ₂ C = CHCH ₂ OH	15.5
CH ₃ CH ₂ OH	16.0
CH ₃ CH ₂ CH ₂ OH	16.1
CH ₃ COCH ₂ Br	16.1
	16.7

Compound	pK _a
CH ₃ CHO	17
(CH ₃) ₂ CHCHO	17
(CH ₃) ₂ CHOH	17.1
(CH ₃) ₃ COH	18.0
CH ₃ COCH ₃	19.3
	23
CH ₃ CO ₂ CH ₂ CH ₃	25
HC≡	25
≡CH	
CH ₃ CN	25
CH ₃ SO ₂ CH ₃	28
(C ₆ H ₅) ₃ CH	32
(C ₆ H ₅) ₂ CH ₂	34
CH ₃ SOCH ₃	35
NH ₃	36
CH ₃ CH ₂ NH ₂	36
(CH ₃ CH ₂) ₂ NH	40
	41
	43
H ₂ C = CH ₂ H ₂ C = CH ₂	44
CH ₄	~60

An acidity list covering more than 5000 organic compounds has been published: E.P. Serjeant and B. Dempsey (eds.), "Ionization Constants of Organic Acids in Aqueous Solution," IUPAC Chemical Data Series No. 23, Pergamon Press, Oxford, 1979.

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