

X-ray Diffraction Laboratory, Texas A & M University

Notes : Acid/Base table for common counter ions employed in pharmaceuticals

Table 1. Acids

Acid	pKa,1	pKa,2	pKa,3
Hydroiodic	-8		
Hydrochloric	-6		
Hydrobromic	-6		
Sulfuric	-3	1.92	
p-Toluenesulfonic	-1.34		
Nitric	-1.32		
Methanesulfonic	-1.2		
Maleic	1.92	6.23	
Phosphoric	1.96	7.12	12.32
Embonic	2.51	3.1	
(+)-Tartaric*	3.02	4.36	
Fumaric	3.03	4.38	
Citric	3.13	4.76	6.40
D,L-Lactic	3.86		
Succinic	4.19	5.48	
Acetic	4.76		

Table 2. Bases

Sodium	14		
Potassium	14		
L-Arginine*	13.2	9.09	2.18
Calcium	12.7		
Magnesium	11.4		
Diethylamine	10.93		
L-Lysine*	10.79	9.18	2.16
Ammonium	9.27		
Meglumine	8.03		
Tromethamine	8.02		

(*) – chiral