

Citric acid-Sodium phosphate buffer – pH range 2.6 –7.6

Prepare a 0.1M solution of citric acid monohydrate, $C_6H_8O_7 \cdot H_2O$ (21.01g/l) and a 0.2M solution of $Na_2HPO_4 \cdot 12H_2O$ (71.64g/l) Mix the volumes shown in the table. Or dissolve the masses shown and make up to 100cm³ with water

pH at 25 °C	Citric acid		$Na_2HPO_4 \cdot 12H_2O$	
	Volume of 0.1M solution (cm ³)	Mass in 100cm ³ (g)	Volume of 0.2M solution (cm ³)	Mass in 100cm ³ (g)
2.6	89.1	1.87	10.9	0.78
2.8	84.15	1.77	15.85	1.14
3.0	79.45	1.67	20.55	1.47
3.2	75.3	1.58	24.7	1.77
3.4	71.5	1.50	28.5	2.04
3.6	67.8	1.42	32.2	2.31
3.8	64.5	1.36	35.5	2.54
4.0	61.45	1.29	38.55	2.76
4.2	58.6	1.23	41.4	2.97
4.4	55.9	1.17	44.1	3.16
4.6	53.25	1.12	46.75	3.35
4.8	50.7	1.07	49.3	3.53
5.0	48.5	1.02	51.5	3.69
5.2	46.4	0.97	53.6	3.84
5.4	44.25	0.93	55.75	3.99
5.6	42.0	0.88	58.0	4.16
5.8	39.55	0.83	60.45	4.33
6.0	36.85	0.77	63.15	4.52
6.2	33.9	0.71	66.1	4.74
6.4	30.75	0.65	69.25	4.96
6.6	27.25	0.57	72.75	5.21
6.8	22.75	0.48	77.25	5.53
7.0	17.65	0.37	82.35	5.90
7.2	13.05	0.27	86.95	6.23
7.4	9.15	0.19	90.85	6.51
7.6	6.35	0.13	93.65	6.71