

Yttrium

Reaction	Baes and Mesmer, 1976	Brown and Ekberg, 2016
$Y^{3+} + H_2O \rightleftharpoons YOH^{2+} + H^+$	-7.7	-7.77 ± 0.06
$Y^{3+} + 2 H_2O \rightleftharpoons Y(OH)_2^+ + 2 H^+$	(-16.4)*	
$Y^{3+} + 3 H_2O \rightleftharpoons Y(OH)_3 + 3 H^+$	(-26.0)*	
$Y^{3+} + 4 H_2O \rightleftharpoons Y(OH)_4^- + 4 H^+$	(-36.5)*	
$2 Y^{3+} + 2 H_2O \rightleftharpoons Y_2(OH)_2^{4+} + 2 H^+$	-14.23	-14.1 ± 0.2
$3 Y^{3+} + 5 H_2O \rightleftharpoons Y_3(OH)_5^{4+} + 5 H^+$	-31.6	-32.7 ± 0.3

$Y(OH)_3(s) + 3H^+ \rightleftharpoons Y^{3+} + 3 H_2O$	(17.5)*	17.32 ± 0.30
$Y(OH)_3(c) + OH^- \rightleftharpoons Y(OH)_4^-$	(-5.0 ± 0.5)*	
$Y(OH)_3(c) \rightleftharpoons Y(OH)_3(aq)$	(-8.5)*	

*Estimation.

C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976.

P.L. Brown and C. Ekberg, *Hydrolysis of Metal Ions*. Wiley, 2016, pp. 135-145.