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Titanium(III)

Reaction	Perrin et al., 1969	Baes and Mesmer, 1976	Brown and Ekberg, 2016
$Ti^{3+} + H_2O \rightleftharpoons TiOH^{2+} + H^+$	–1.29	–2.2 ± 0.3	–1.65 ± 0.11
$2\ Ti^{3+} + 2\ H_2O \rightleftharpoons Ti_2(OH)_2^{4+} + 2\ H^+$		–3.6 ± 0.5	–2.64 ± 0.10

C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, pp. 147–151

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 433–442.

D.D. Perrin, Dissociation Constants of Inorganic Acids and Bases in Aqueous Solutions. International Union of Pure and Applied Chemistry. Commission on Electroanalytical Chemistry. Butterworths, 1969, pp. 208.

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Titanium(IV)

Reaction	Feitknecht and Schindler, 1963	Baes and Mesmer, 1976	Brown and Ekberg, 2016
$TiO^{2+} + H_2O \rightleftharpoons TiOOH^{+} + H^{+}$		$\leqslant -2.3$	-2.48 ± 0.10
$TiO^{2+} + 2\ H_2O \rightleftharpoons TiO(OH)_2 + 2\ H^{+}$		-4.8 ± 0.3	-5.49 ± 0.14
$TiO^{2+} + 3\ H_2O \rightleftharpoons TiO(OH)_3^{-} + 3\ H^{+}$			-17.4 ± 0.5
$TiO_2(s) + H^{+} \rightleftharpoons TiOOH^{+}$			-6.06 ± 0.30
$TiO_2\,(s) + H_2O \rightleftharpoons TiO(OH)_2$			-9.02 ± 0.02

$TiO(OH)_2 + H_2O \rightleftharpoons TiO(OH)_3^- + H^+$			–11.9 ±0.5
$TiO_2\,x\,H_2O \rightleftharpoons Ti(OH)_2^{2+}[OH^-]$	–29		
$TiO_2(s) + 4\,H^+ \rightleftharpoons Ti^{4+} + 2\,H_2O$			–3.56 ± 0.10

C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, pp. 147–151.

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 433–442.

W. Feitknecht and P. Schindler, Solubility constants of metal oxides, metal hydroxides and metal hydroxide salts in aqueous solution. Pure and Applied Chemistry, 6, 125–206 (1963).