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Bismuth(III)

Reaction	Baes and Mesmer, 1976	Lothenbach et al., 1999	NIST46	Kitamura et al., 2010	Brown and Ekberg, 2016
$Bi^{3+} + H_2O = BiOH^{2+} + H^+$	–1.09	–0.92	–1.1	–0.920	–0.92 ± 0.15
$Bi^{3+} + 2\ H_2O = Bi(OH)_2^{+} + 2\ H^+$	(–4)	–2.56	–4.5	–2.560 ± 1.000	–2.59 ± 0.26
$Bi^{3+} + 3\ H_2O = Bi(OH)_3 + 3\ H^+$	–8.86	–5.31	–9.0	–8.940 ± 0.500	–8.78 ± 0.20
$Bi^{3+} + 4\ H_2O = Bi(OH)_4^{-} + 4\ H^+$	–21.8	–18.71	–21.2	–21.660 ± 0.870	–22.06 ± 0.14
$3\ Bi^{3+} + 4\ H_2O = Bi_3(OH)_4^{5+} + 4\ H^+$		–0.80		–0.800	
$6\ Bi^{3+} + 12\ H_2O = Bi_6(OH)_{12}^{6+} + 12\ H^+$		1.34		1.340	0.98 ± 0.13

$9\ Bi^{3+} + 20\ H_2O = Bi_9(OH)_{20}^{7+} + 20\ H^+$		–1.36		–1.360	
$9\ Bi^{3+} + 21\ H_2O = Bi_9(OH)_{21}^{6+} + 21\ H^+$		–3.25		–3.250	
$9\ Bi^{3+} + 22\ H_2O = Bi_9(OH)_{22}^{5+} + 22\ H^+$		–4.86		–4.860	
$Bi(OH)_3(am) + 3\ H^+ = Bi^{3+} + 3\ H_2O$				31.501 ± 0.927	
$\alpha\text{-}Bi_2O_3(cr) + 6\ H^+ = 2\ Bi^{3+} + 3\ H_2O$		0.76			
$BiO_{1.5}(s, \alpha) + 3\ H^+ = Bi^{3+} + 1.5\ H_2O$	3.46			31.501 ± 0.927	2.88 ± 0.64

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B. Lothenbach, M. Ochs, H. Wanner and M. Yui, Thermodynamic Data for the Speciation and Solubility of Pd, Pb, Sn, Sb, Nb and Bi in Aqueous Solution. Japan Nuclear Cycle Development Institute, 1999, pp. 12–22.

NIST46, NIST Critically Selected Stability Constants of Metal Complexes: Version 8.0. Available at: www.nist.gov/srd/nist46.