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Molybdenum(VI)

Reaction	Baes and Mesmer, 1976	Jolivet, 2000	NIST46	Crea et al., 2017
$MoO_4^{2-} + H^+ = HMoO_4^-$	3.89[a]		4.24	4.47 ± 0.02
$MoO_4^{2-} + 2\ H^+ = H_2MoO_4$	7.50[a]			8.12 ± 0.03
$HMoO_4^- + H^+ = H_2MoO_4$			4.0	
$Mo_7O_{24}^{6-} + H^+ = HMo_7O_{24}^{5-}$		4.4		
$HMo_7O_{24}^{5-} + H^+ = H_2Mo_7O_{24}^{4-}$		3.5		
$H_2Mo_7O_{24}^{4-} + H^+ = H_3Mo_7O_{24}^{3-}$		2.5		

$7\ MoO_4^{2-} + 8\ H^+ = Mo_7O_{24}^{6-} + 4\ H_2O$	57.74[a]		52.99[b]	51.93 ± 0.04
$7\ MoO_4^{2-} + 9\ H^+ = Mo_7O_{23}(OH)^{5-} + 4\ H_2O$	62.14[a]			58.90 ± 0.02
$7\ MoO_4^{2-} + 10\ H^+ = Mo_7O_{22}(OH)_2^{4-} + 4\ H_2O$	65.68[a]			64.63 ± 0.05
$7\ MoO_4^{2-} + 11\ H^+ = Mo_7O_{21}(OH)_3^{3-} + 4\ H_2O$	68.21[a]			68.68 ± 0.06
$19\ MoO_4^{2-} + 34\ H^+ = Mo_{19}O_{59}^{4-} + 17\ H_2O$	196.3[a]		196[a]	
$MoO_3(s) + H_2O = MoO_4^{2-} + 2\ H+$	–12.06[a]			

[a] at I = 3 M $NaClO_4$
[b] at I = 0.1 M Na^+ medium, Data at I = 0 are not available

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

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J.-P. Jolivet, Metal Oxide Chemistry and Synthesis. From Solution to Solid State. Wiley, 2000.

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