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Equilibrium constants for hydrolysis and associated equilibria in critical compilations

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## Iridium

| Equilibrium reactions  | lgK at infinite dilution<br>and $T = 298 \text{ K}$ |
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|  | Brown and Ekberg,<br>2016                           |
| $\text{Ir}^{3+} + \text{H}_2\text{O} \rightleftharpoons \text{IrOH}^{2+} + \text{H}^+$                     | $-3.77 \pm 0.10$                                    |
| $\text{Ir}^{3+} + 2 \text{H}_2\text{O} \rightleftharpoons \text{Ir}(\text{OH})_2^+ + 2 \text{H}^+$         | $-8.46 \pm 0.20$                                    |
| $\text{Ir}(\text{OH})_3(\text{s}) + 3 \text{H}^+ \rightleftharpoons \text{Ir}^{3+} + 3 \text{H}_2\text{O}$ | $8.88 \pm 0.20$                                     |

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 736–739.

# Distribution diagrams

These diagrams have been computed at two Ir concentrations (1 mM =  $1 \times 10^{-3}$  mol L<sup>-1</sup> and 1  $\mu$ M =  $1 \times 10^{-6}$  mol L<sup>-1</sup>) with the 'best' equilibrium constants above. Calculations assume  $T = 298$  K for the limiting case of zero ionic strength (*i.e.*, even neglecting plotted ions).

