20.10 Solubility of Complex Ions (Video)

This project was preformed to supply **Libretext Authors** with videos on General Chemistry topics which can be used to enhance their projects. Also, these videos are meant to act as a learning resource for **all General Chemistry students**.

Video Topics

Complex ions: Another way to dissolve partially soluble salts is by forming a complex.

A complex ion is a polyatomic cation or anion composed of a central metal ion to which other groups called ligands are bonded.

For $\mathbf{[Fe(CN)_6]^{4-}_{(aq)}}$

Fe^{2+} is the central ion and ^{-}CN is the ligand

The equilibrium constant for creating a complex ion is called a formation constant (K_f)

$\mathbf{Fe^{2+}_{(aq)} + 6\ {}^{-}CN_{(aq)} \Leftrightarrow [Fe(CN)_6]^{4-}_{(aq)}}$

$K_f = 1 \times 10^{37}$

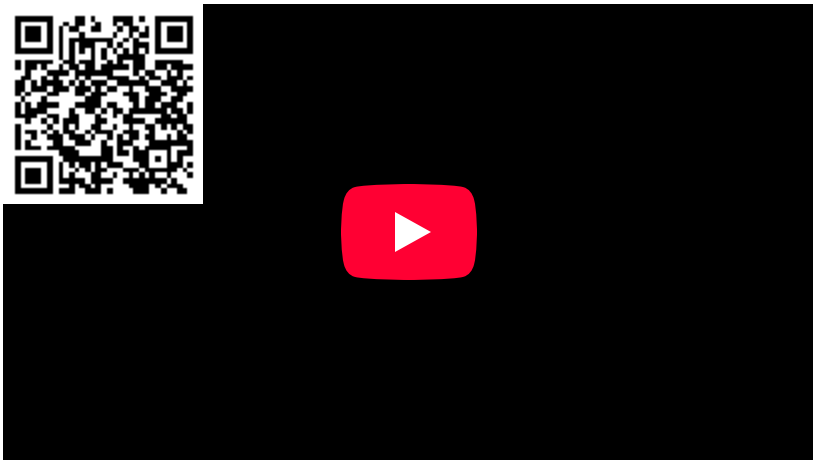
Because K_f is very large the equilibrium lies far to the right.

Because the complex ion is charged, it is usually water-soluble.

This video contains examples, which shows how the formation of a complex can cause an insoluble salt to dissolve. Also, the concentration of a metal cation after complexation is calculated.

Link to Video

Solubility of Complex Ions: https://youtu.be/f4pkKDg2XTA



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- Prof. Steven Farmer (Sonoma State University)

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