The hydrolysis constants of copper (I) (Cu$^+$) and copper (II) (Cu$^{2+}$) in aqueous solution as a function of pH using a combination of pH measurement and biospectroscopic methods and techniques

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The hydrolysis constants of Copper (I) (Cu$^+$) and Copper (II) (Cu$^{2+}$) ions in aqueous solution were studied in a wide range of pH 1–13 using a combination of biospectrophotometric and potential methods and techniques at constant temperature 23°C and constant ionic strength 0.5 mol dm$^{-3}$ Sodium perchlorate (NaClO$_4$). At least squares regression calculations are consistent with the formation of Cu(OH)$^+$, Cu(OH)$^-$, Cu(OH)$_2$, Cu(OH)$_3^-$ and Cu(OH)$_4^{2-}$ species at the mentioned experimental conditions and finally, the species mole of the hydrolyzed species were plotted at different pHs and discussed (Figure 1) [1-212].

References

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Received: January 13, 2019; Accepted: January 23, 2019; Published: January 25, 2019
Alireza Heidari (2018) The hydrolysis constants of copper (I) (Cu+) and copper (II) (Cu2+) in aqueous solution as a function of pH using a combination of pH measurement and biospectroscopic methods and techniques

Glob Imaging Insights, 2019         doi: 10.15761/GII.1000182

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Glob Imaging Insights, 2019

This paper presents a comprehensive investigation into the hydrolysis constants of copper (I) (Cu+) and copper (II) (Cu2+) in aqueous solution as a function of pH. The study employs a combination of pH measurement and various biospectroscopic techniques to explore the complex dynamics of copper ions in aqueous media. The findings contribute to a better understanding of copper behavior in biological and environmental contexts, which is crucial for the fields of environmental science, biotechnology, and material science.
Heidari A (2019) The hydrolysis constants of copper (I) (Cu+) and copper (II) (Cu2+ in aqueous solution as a function of pH using a combination of pH measurement and biospectroscopic methods and techniques.
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