RESOLVING ISOMERS OF COPPER TRIOXIDE ANION VIA TEMPERATURE DEPENDENT PHOTOELECTRON IMAGING

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Although the photoelectron spectrum of copper trioxide was first reported in the late 1990's, it has remained unassigned to date. Several calculations have predicted the presence of multiple isomers, but the complexity of the system has prevented any assignment of the experimental spectrum. We have revisited the photoelectron spectrum of copper trioxide, now with high-resolution photoelectron imaging and a cryogenically-cooled ion trap. The new temperature dependent photoelectron spectra have resolved the presence of two distinct isomers, allowing for the full assignment of the photoelectron spectrum of copper trioxide for the first time.