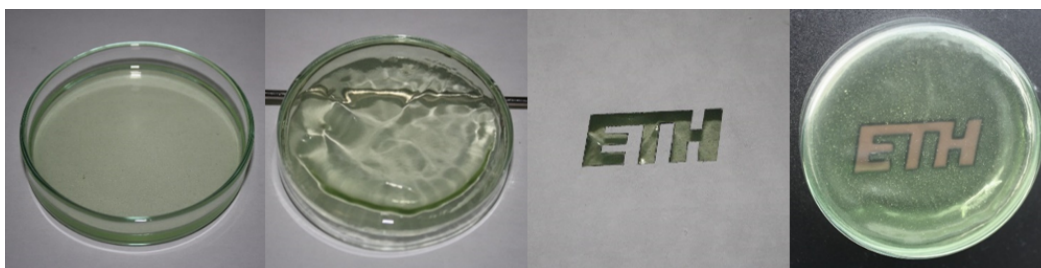
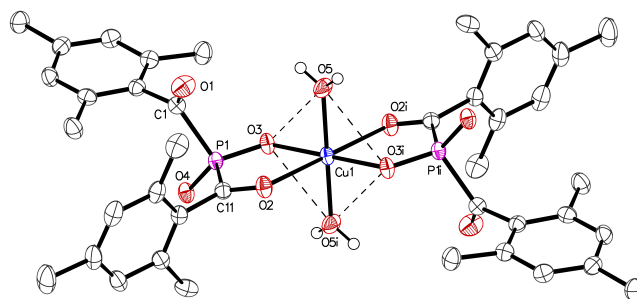


Bismesitoylphosphinic Acid (BAPO-OH) as 4-Electron Photoreductant for the Preparation of various Cu Nanomaterials and related Cu complexesA. Beil¹, G. Müller¹, H. Grützmacher^{1*}¹ETH Zürich, Laboratorium für Anorganische Chemie, Vladimir-Prelog-Weg 1, 8093 Zürich

We present the readily available photoinitiator bismesitoylphosphinic acid (BAPO-OH)^[1, 2] as 4-electron photoreductant for the high yielding reduction of aqueous Cu(II) to obtain metallic copper. The diverse coordination behavior of BAPO-OH towards copper was investigated by single crystal X-ray crystallography. The described method allows access to colloidal Cu(0) and nanoscopic Cu particles of various size and morphology. This was shown by dynamic light scattering (DLS), scanning electron microscopy (SEM) and scanning transmission electron microscopy (STEM). X-ray powder diffraction confirmed the purity of the obtained Cu samples. A Cu(II) complex of BAPO-OH can be applied as both, a photoinitiator for the preparation of hydrogels and a reagent for the spatiotemporally controlled production of Cu(0) in the already cured material.^[3]



[1] G. Müller *et al.*, WO2014095724A1 **2014**. [2] G. Müller *et al.*, *Macromol. Rapid Commun.* **2015**, 36, 553. [3] A. Beil *et al.*, *manuscript in preparation*

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