

Abstract Submitted  
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**Ion tunable of rheology of supramolecular metallogels** NIGEL CLARKE, JONATHAN STEED, MARC-OLIVER PIEPENBROCK, Durham University — A bis(pyridylurea) ligand forms metallogels in methanol in the presence of up to 0.5 equiv of copper(II) chloride. The addition of further copper(II) chloride gives an unusual crystalline 4:3 coordination polymer, whereas in the presence of 0.5 equiv of copper(II) nitrate, a 2:1 crystalline coordination polymer arises. The latter represents a possible model for supramolecular gelators and highlights key interactions with counteranions that suggest a means to tune gel properties using anion binding. The influence of chloride and acetate anions on the rheological properties of the copper(II) chloride metallogels are investigated [1]. The rheology of the anion-containing mixtures shows complex behavior with the gel structure evolving over time. We also observe shear-induced gelation [2], where vigorous shaking, rather than sonication, transforms a weak jelly like aggregate into a robust gel, exhibiting clear structural changes within the gel fibres. Reversible anion tuning allows these compounds to as responsive soft materials.

[1] Piepenbrock, M.M.; Clarke, N.; Steed, J.W.; Langmuir, 25, 8451, 2009.

[2] Piepenbrock, M.M.; Clarke, N.; Steed, J.W.; Soft Matter, 6, 3541, 2010.

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