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The effect of pH and hydrogen bond donor on the dissolution of metal oxides in deep eutectic solvents

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Supplementary information:

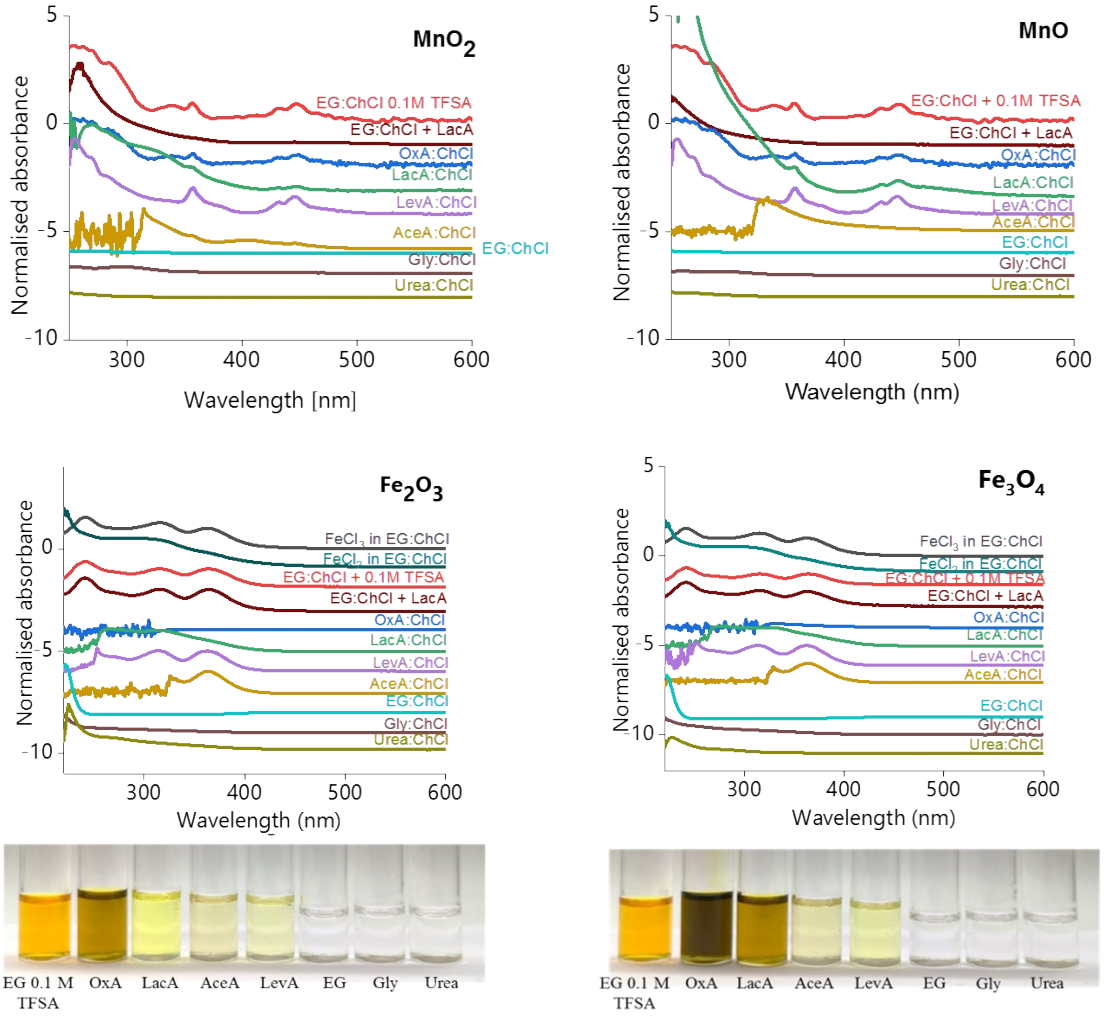

Figure S1: UV-Vis spectra of metal oxides and comparison of their coloured solutions upon dissolution in different DESs.

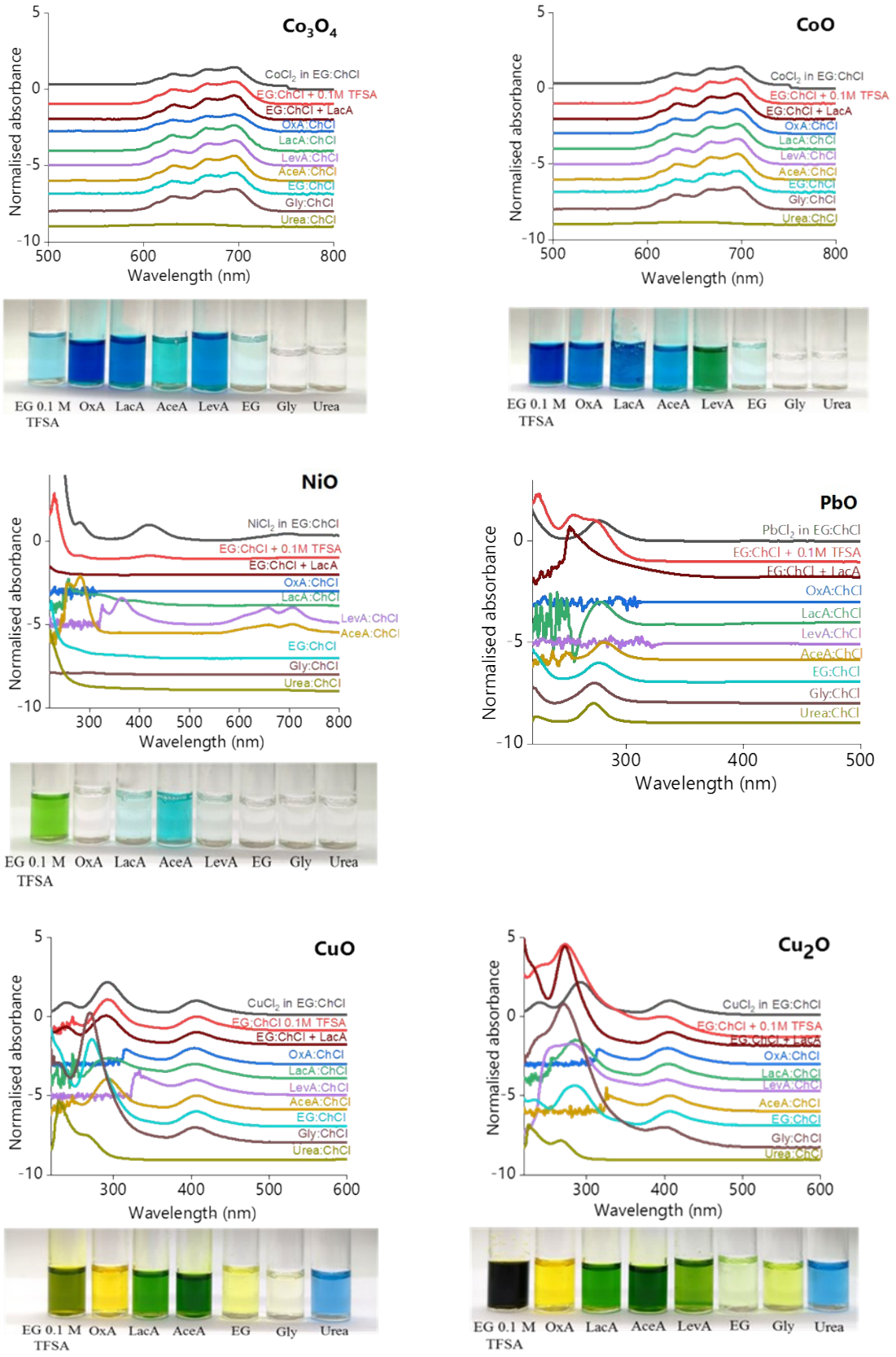

Figure S2: UV-Vis spectra of metal oxides and comparison of their coloured solutions upon dissolution in different DESs.

Figure S3: Precipitates of MnO, CoO, CuO, ZnO and PbO from top to bottom in OxA:ChCl (left) and aqueous solution of 1.8M oxalic acid (right).

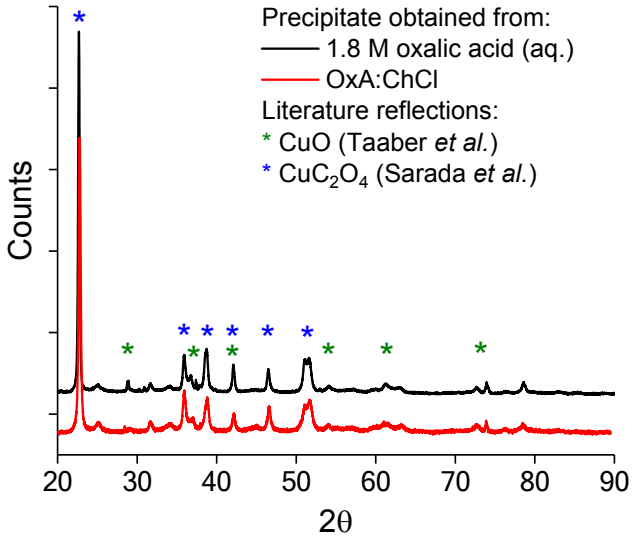

Figure S4: Comparison of XRD patterns for the precipitates obtained after dissolution of CuO in 1.8 M oxalic acid(aq.) and OxA:ChCl. The asterisks indicate where literature sources observed reflections.[1, 2]

Table S1: Concentration of metals (mg L^{-1}) in precipitates formed in different carboxylic based DESs.

Metal Oxide	OxA:ChCl	LacA:ChCl	AceA:ChCl
MnO_2	1914 ± 180	-	-
MnO	784 ± 65	230 ± 15	-
Fe_2O_3	-	-	-
Fe_3O_4	-	-	-
Co_3O_4	-	-	-
CoO	435 ± 36	-	-
NiO	-	-	-
CuO	1315 ± 150	-	-
Cu_2O	2730 ± 231	-	-
ZnO	2525 ± 337	930 ± 67	795 ± 52
PbO	678 ± 29	750 ± 85	1037 ± 57

References

1. K. Sarada and K. Muraleedharan, *Journal of Thermal Analysis and Calorimetry*, 2015, **123**, 643-651.
2. T. Taaber, A. E. Enok, U. Joost, S. Oras, M. Järvekülg, R. Lõhmus, U. Mäeorg and K. Saal, *Mechanics*, 2015, **21**.