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Electronic Supplementary Information (ESI)

Formation of nanoneedle Cu(0)/CuS nanohybrid thin film by the disproportionation of a

copper(I) complex at oil-water interface and its application for dye degradation

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Fig. S1 Structure of the dye molecules (a) BG, (b) MO, (c) MG, (d) MR and (e) MB.

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Fig. S2 Degradation of MG dye (a) plot of absorbance (A) *vs* wavelength and the inset image indicates the decolorisation reaction in the absence of H_2O_2 , (b) plot of absorbance (A) *vs* wavelength and the inset image indicates the decolorisation reaction in the presence of H_2O_2 , (c) plot of absorbance (A) *vs* time (t) in the absence of H_2O_2 and (d) plot of absorbance (A) *vs* time (t) in the presence of H_2O_2 .



Fig. S3 Degradation of BG dye (a) plot of absorbance (A) *vs* wavelength and the inset image indicates the decolorisation reaction in the absence of H_2O_2 , (b) plot of absorbance (A) *vs* wavelength and the inset image indicates the decolorisation reaction in the presence of H_2O_2 and (c) plot of absorbance (A) *vs* time (t) in the presence of H_2O_2 .



Fig. S4 Degradation of MR dye (a) plot of absorbance (A) *vs* wavelength and the inset image indicates the decolorisation reaction in the absence of H_2O_2 , (b) plot of absorbance (A) *vs* wavelength and the inset image indicates the decolorisation reaction in the presence of H_2O_2 and (c) plot of absorbance (A) *vs* time (t) in the presence of H_2O_2 .



Fig. S5 Degradation of MO dye (a) plot of absorbance (A) vs wavelength and the inset image indicates the decolorisation reaction in the absence of H_2O_2 and (b) plot of absorbance (A) vs wavelength and the inset image indicates the decolorisation reaction in the presence of H_2O_2 .