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Copper(I) tertiary phosphine xanthate complexes as single source precursors for copper sulfide and their application in OER

Amita Singh,[a] Manoj Trivedi,[b] Pooja Singh,[a] Gabriele Kociok-Köhn,[c] Uday Pratap Azad,[d] Ashish Kumar Singh*[d] and Abhinav Kumar,*[a]

[a]*Department of Chemistry, Faculty of Science, University of Lucknow, Lucknow 226 007, India, Email: abhinavmarshal@gmail.com*

[b]*Department of Chemistry, University of Delhi, Delhi, India*

[c]*Chemical Characterisation and Analysis Facility (CCAF), University of Bath, Bath BA2 7AY, UK*

[d]*School of Materials Science and Technology, Indian Institute of Technology, BHU, Varanasi, India, Email: ashish.bhuchem@gmail.com*

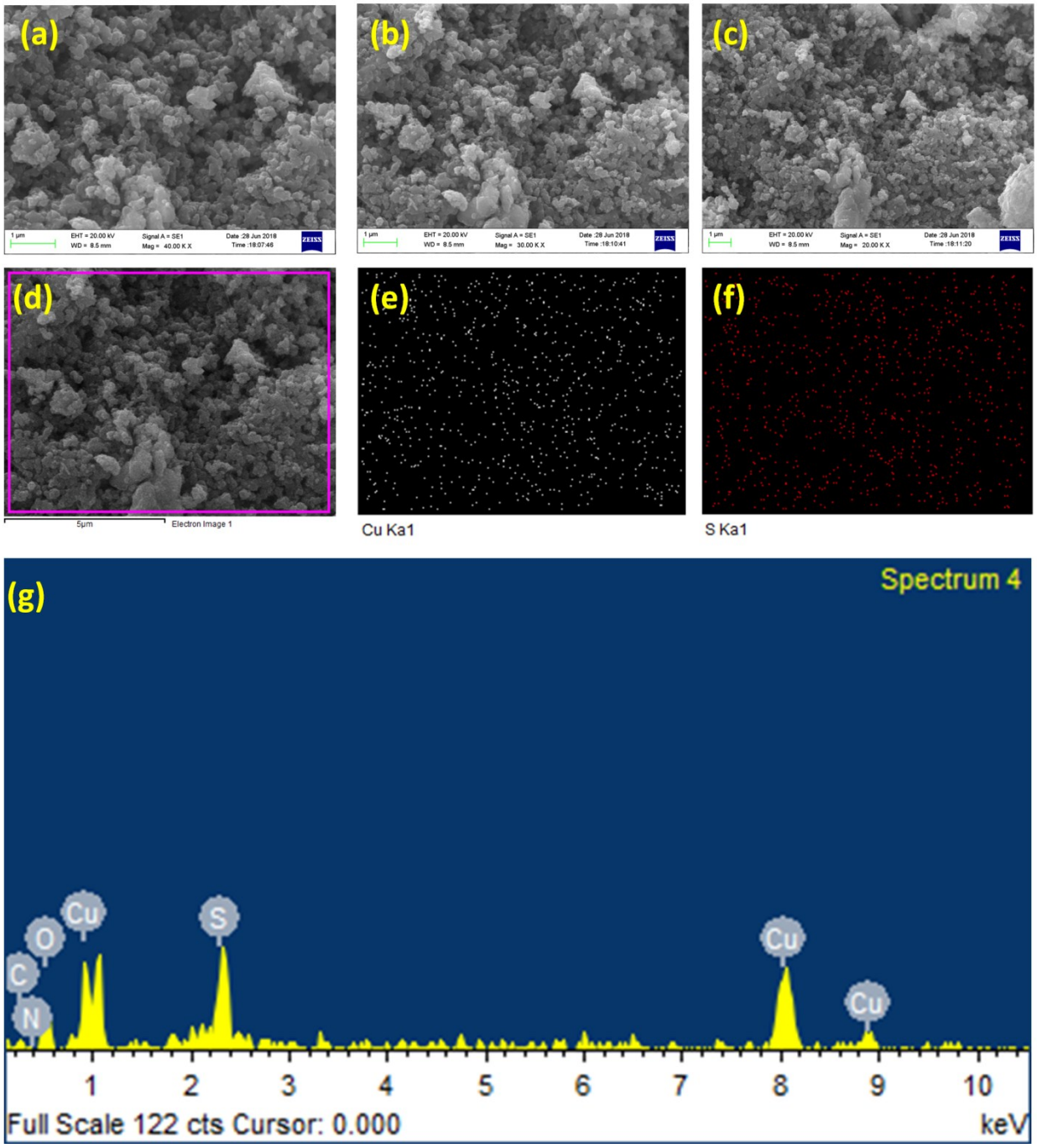

Fig. S1 (a-d) SEM images, (e,f) Energy dispersive X-ray spectroscopy (EDS) elemental mapping analysis of Cu_xS-**1**: (e) Cu mapping, (f) S mapping, and (g) EDX spectrum.

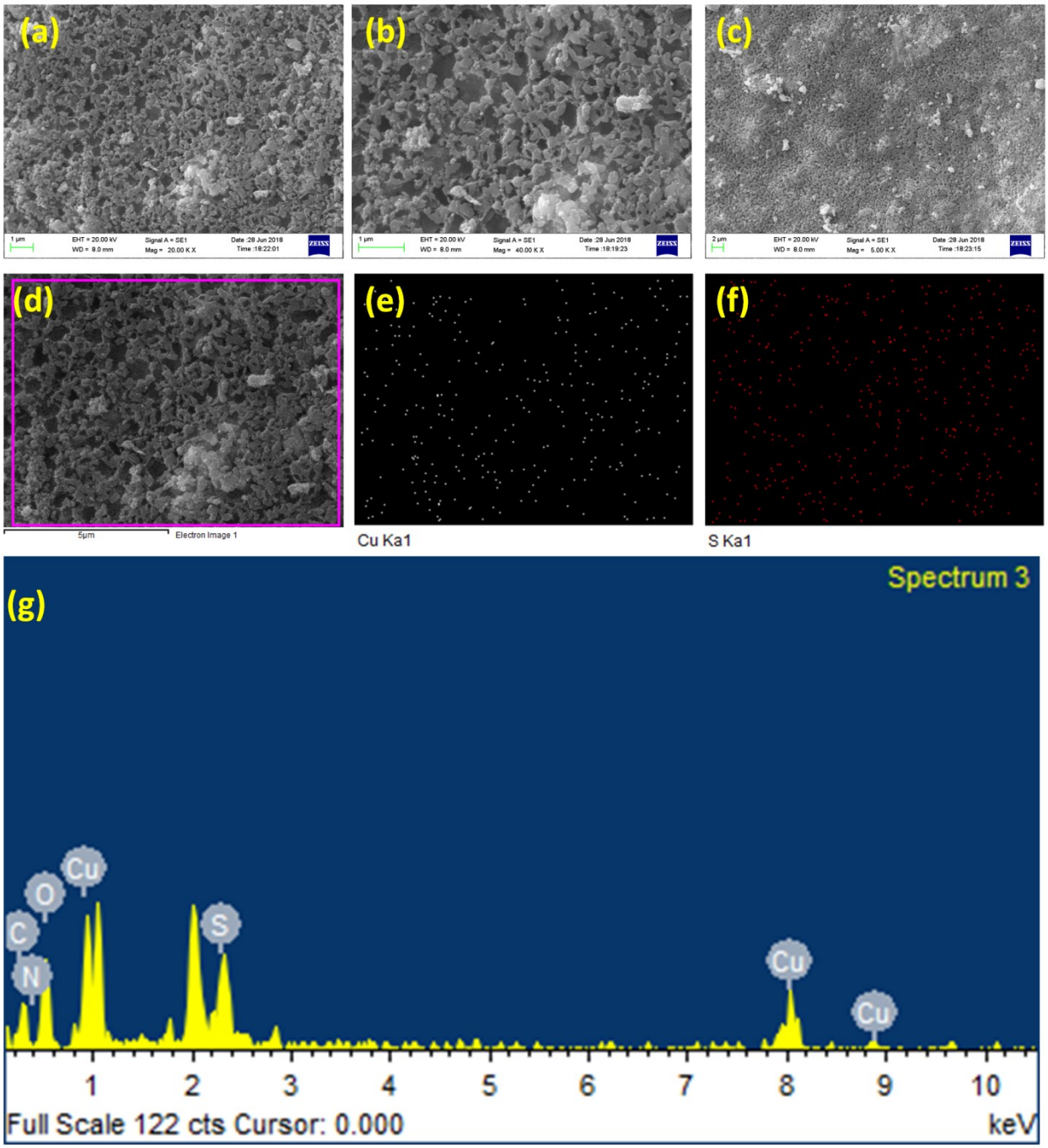

Fig. S2 (a-d) SEM images, (e,f) Energy dispersive X-ray spectroscopy (EDS) elemental mapping analysis of Cu_xS-**2**: (e) Cu mapping, (f) S mapping, and (g) EDX spectrum.

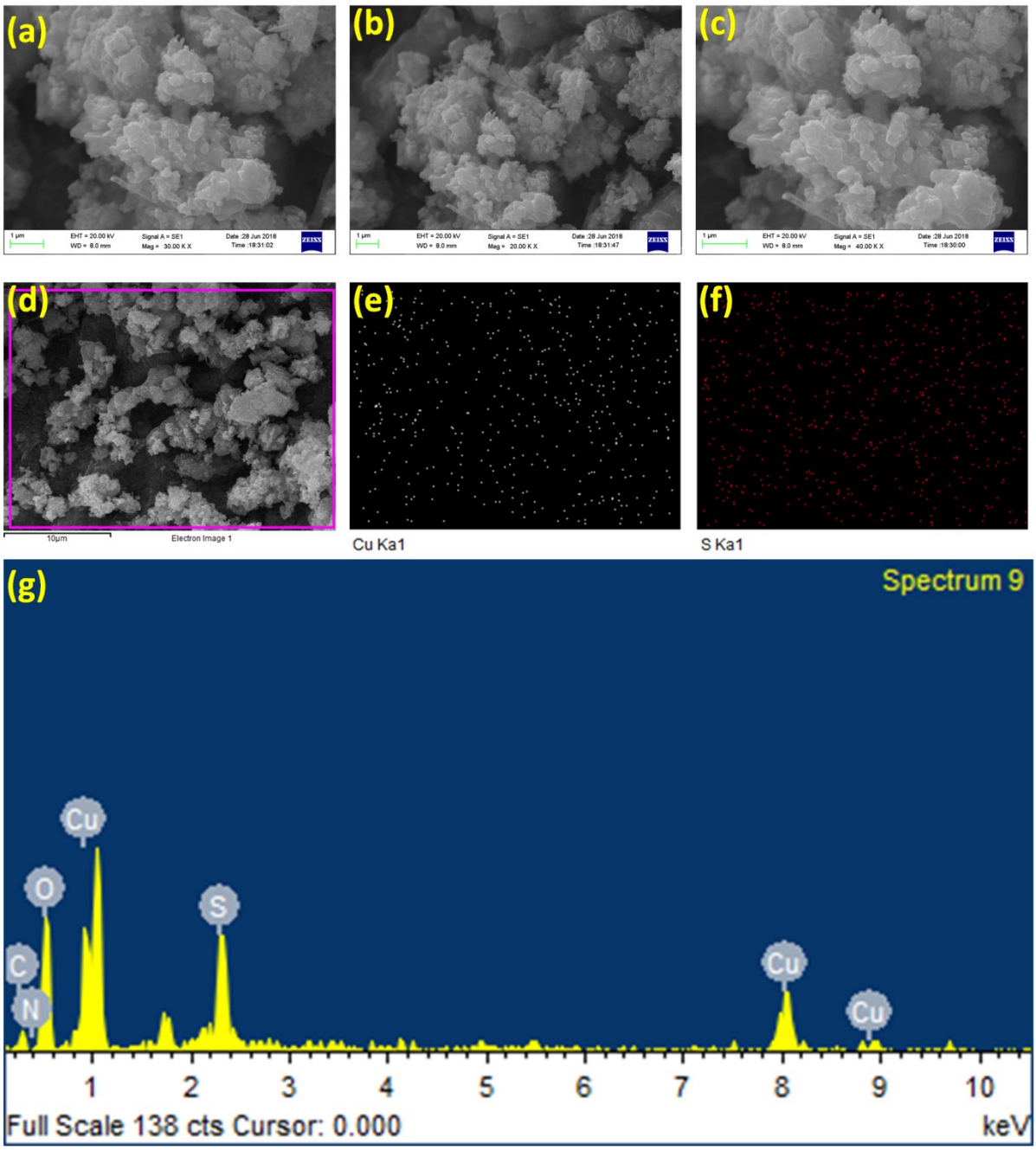

Fig. S3 (a-d) SEM images, (e,f) Energy dispersive X-ray spectroscopy (EDS) elemental mapping analysis of Cu_xS-**3**: (e) Cu mapping, (f) S mapping, and (g) EDX spectrum.

Table S1: Elemental Composition of Cu_xS Samples

Element	Composition					
	1		2		3	
	Wt%	Atomic %	Wt%	Atomic %	Wt%	Atomic %
Cu	30.92	8.84	18.42	4.67	20.03	5.53
S	4.71	2.67	4.38	2.20	6.10	3.33
C	33.34	50.43	45.21	60.58	22.65	33.06
N	17.39	22.57	2.71	3.11	12.53	15.69
O	13.64	15.49	29.28	29.45	38.69	42.39
Cu/S ratio		3.311		2.12		1.66