Electronic Supplementary Material (ESI) for Materials Advances.

Influence of Counter Ions of Ammonium for Nitrogen Doping in Hydrothermal Carbonization: Characterization and Supercapacitor Performance

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Supplementary Information

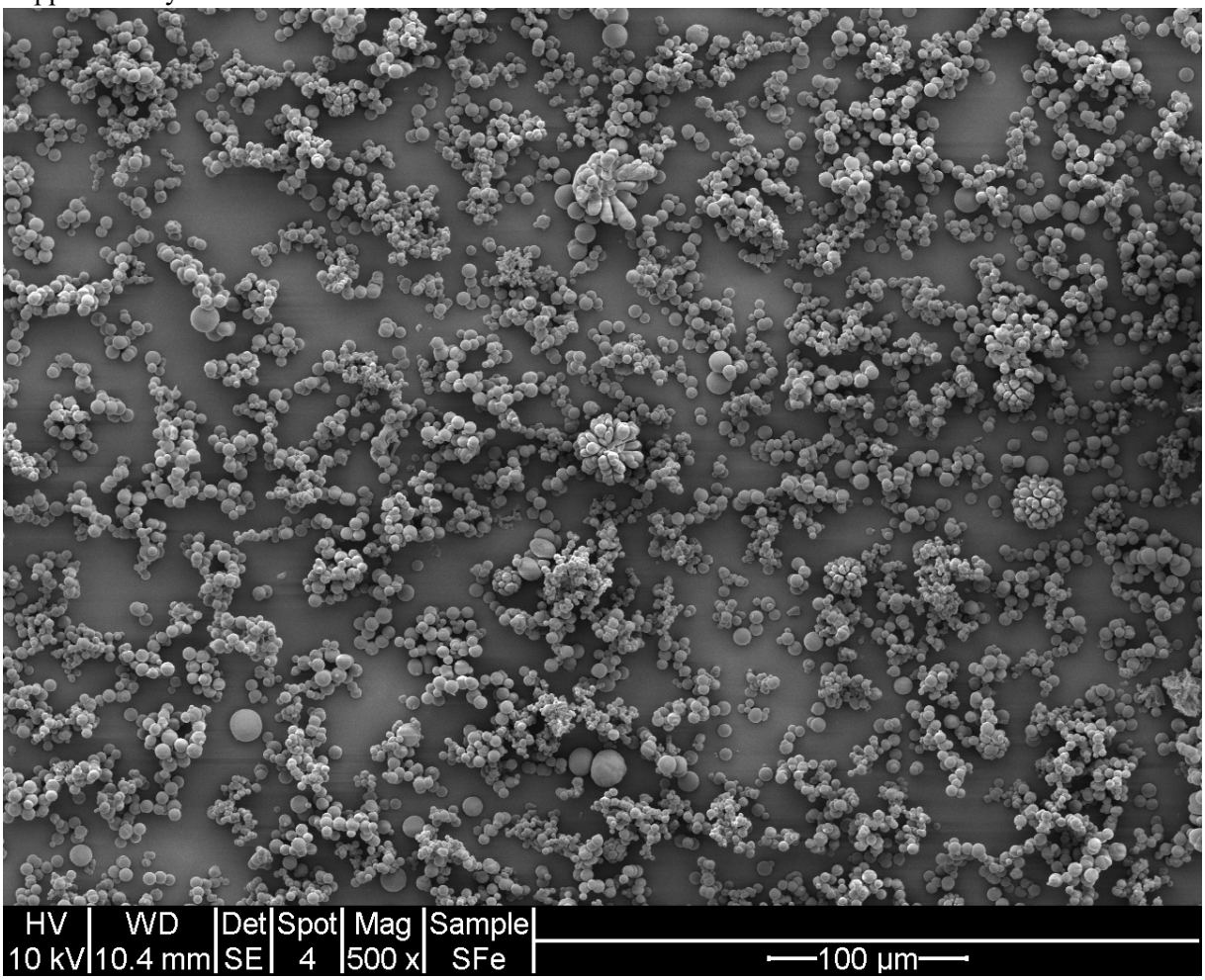


Figure S1. SEM Image of H-Fe with several “flower-like” structures at 500x.

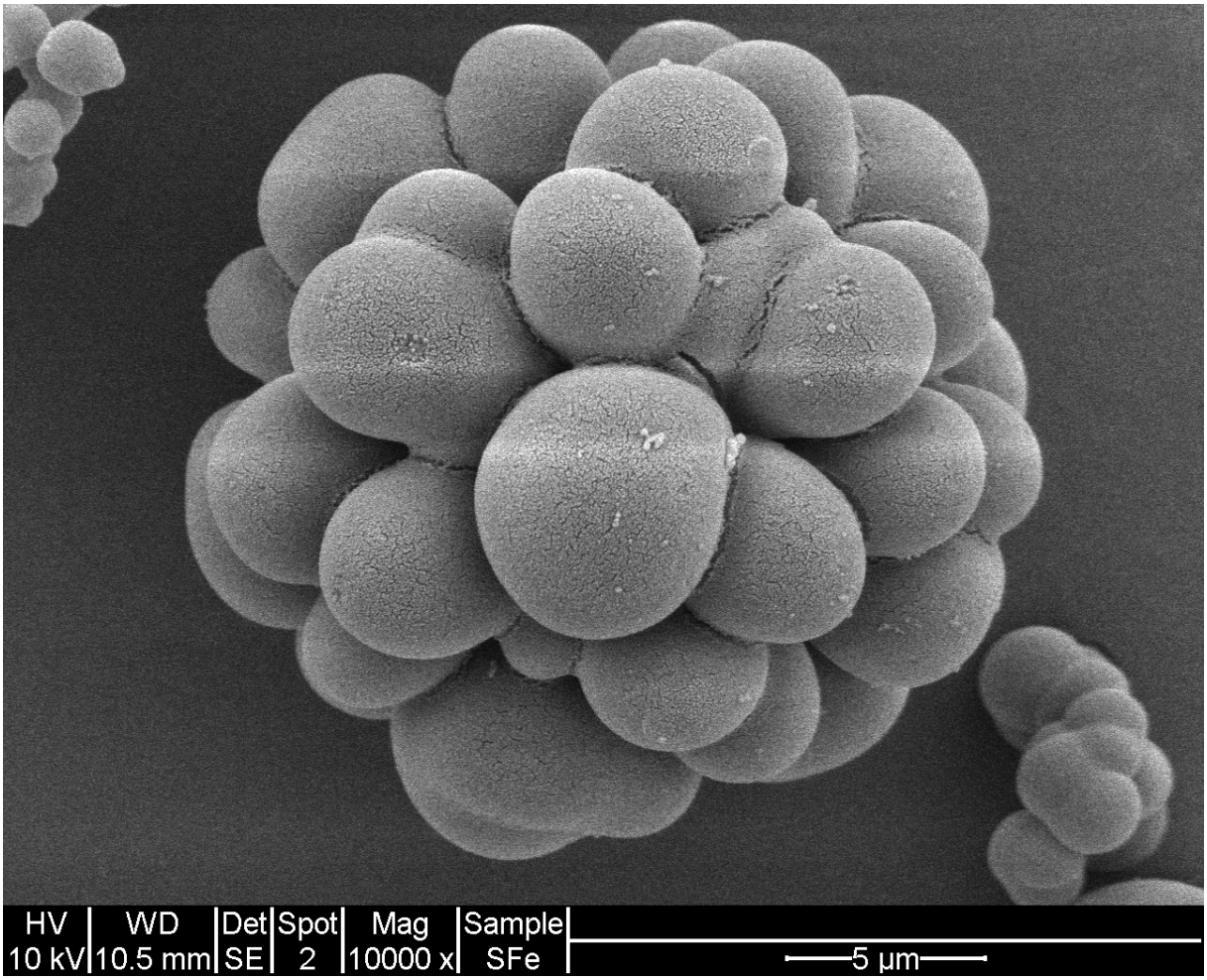


Figure S2. 10000x SEM Image of the “flower-like” structure in H-Fe.

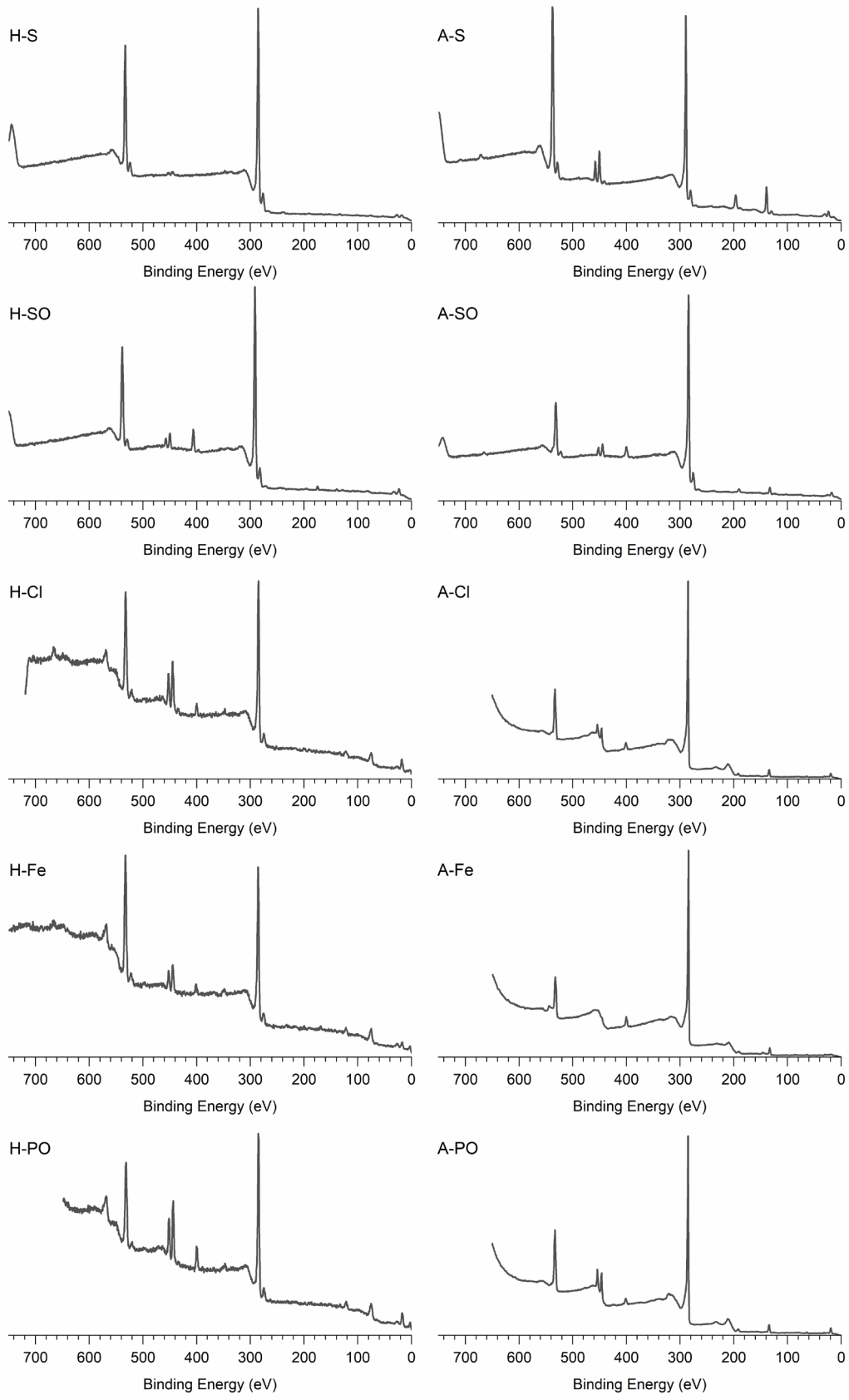
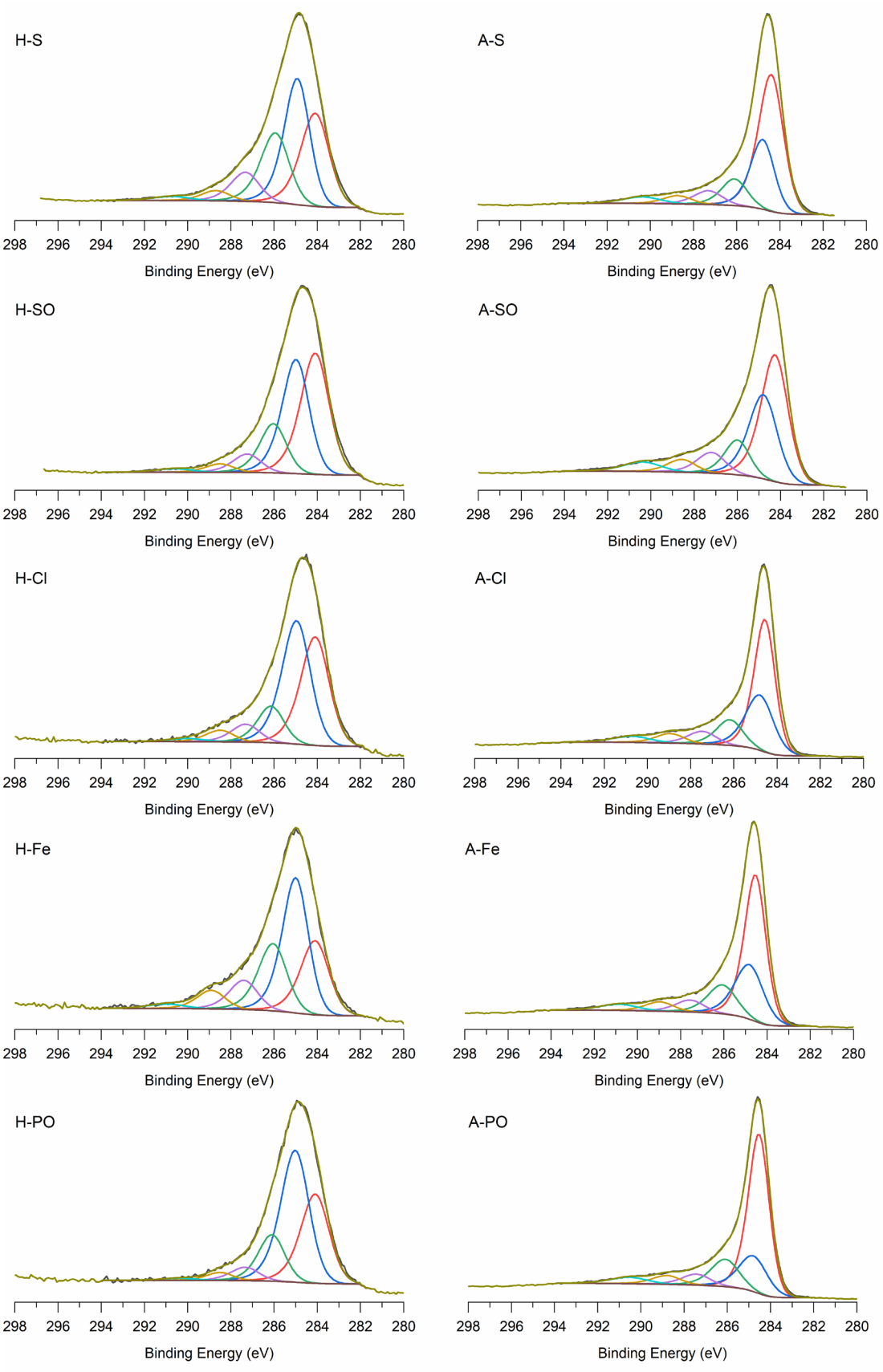
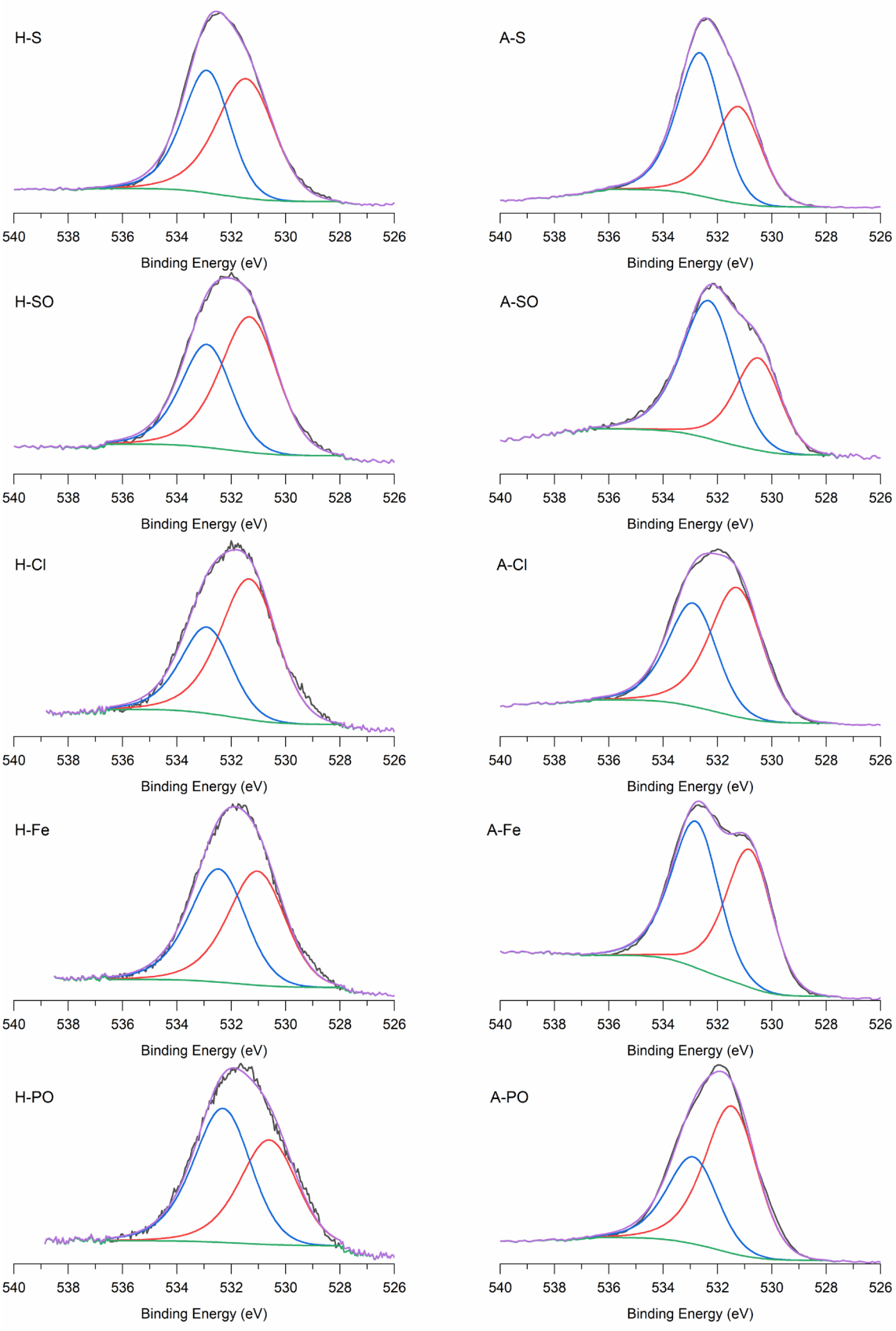


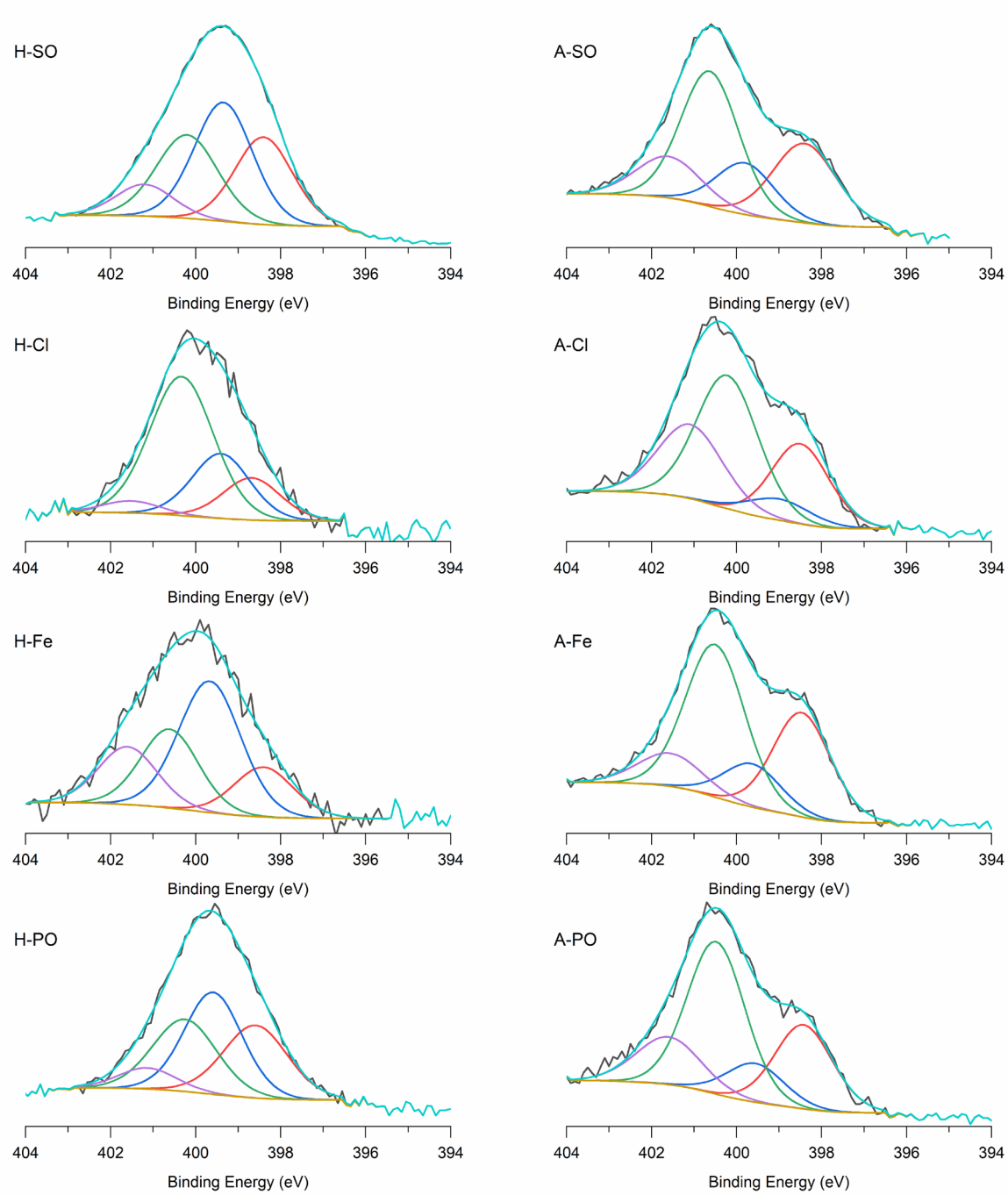
Figure S3. XPS Survey Spectra for each of the samples.



S4. XPS C1s spectra of each samples with deconvolution.



S5. XPS O1s spectra of each sample with deconvolution.



S6. XPS N1s spectra of each sample with deconvolution.

Table S1. Normalization for the C1s and N1s XPS Data

	Carbon				Nitrogen			
	C-OH	-C=O	-COOH	$-CO_3$	Pyridinic	Amine	Pyrroles	Quaternary
H-Con	1.00	0.42	0.15	0.08	-	-	-	-
H-SO	1.00	0.40	0.19	0.10	1.00	1.37	1.01	0.36
H-Cl	1.00	0.53	0.34	0.13	1.00	0.67	1.60	0.13
H-Fe	1.00	0.44	0.28	0.09	1.00	1.34	2.03	0.90
H-PO	1.00	0.31	0.18	0.06	1.00	1.11	0.61	0.12
A-Con	1.00	0.57	0.34	0.37	-	-	-	-
A-SO	1.00	0.68	0.42	0.42	1.00	0.59	1.55	0.53
A-Cl	1.00	0.53	0.40	0.34	1.00	0.29	1.76	1.04
A-Fe	1.00	0.41	0.32	0.29	1.00	0.41	1.50	0.35
A-PO	1.00	0.41	0.33	0.32	1.00	0.46	1.81	0.63