

Supplementary materials

Table S1. The percentage of S 2p species on the surfaces of residue under different conditions.

Species	650mV + M		650mV – M		750mV + M		750mV – M		850mV + M		850mV – M	
	Position	at.	Position	at.	Position	at.	Position	at	Position	at	Position	at.
	(eV)	%	(eV)	%	(eV)	%	(eV)	.%	(eV)	.%	(eV)	%
Surface												
S _{2s} ² - 2p 3/2	161.50	7	161.95	8	161.96	6	161.81	7	161.50	4	161.46	4
Surface												
S _{2s} ² - 2p 1/2	162.80	3	163.1	4	163.11	3	162.96	4	162.65	2	162.61	2
S _{2s} ² - 2p 3/2	162.20	45	162.69	44	162.73	46	162.53	45	162.35	39	162.32	36
S _{2s} ² - 2p 1/2	163.36	23	163.84	22	163.88	24	163.69	23	163.50	20	163.47	18
S _{2s} ² /S _s												
2p 3/2	163.67	3	163.6	2	164.66	3	163.73	6	163.61	8	163.48	13
S _{2s} ² /S _s												
2p 1/2	164.82	1	164.9	1	165.96	2	164.88	3	164.76	4	164.63	7
SO ₄ ²⁻ 2p 3/2	168.59	7	168.84	8	168.72	6	168.43	4	168.35	11	168.32	9
SO ₄ ²⁻ 2p 1/2	169.89	3	170.06	4	169.97	3	169.76	2	169.65	5	169.56	4
EL	164.50	8	164.5	7	164.50	6	164.50	6	164.50	7	164.50	6

Table S2. The percentage of Fe 2p_{3/2} species on the surfaces of residue under different conditions.

Species	650mV + M		650mV – M		750mV + M		750mV – M		850mV + M		850mV – M	
	Positio	at.	Positio	at.	Positio	at.	Position	At	Positio	at.	Positio	at.
	n	%	n	%	n	%	(eV)	.%	n	%	n	%
	(eV)		(eV)		(eV)				(eV)		(eV)	
Fe(II) Mult.1	706.18	12	706.23	5	706.24	6	706.16	7	706.05	13	705.90	6
FeS ₂	706.74	51	707.15	55	707.26	60	706.99	58	706.88	45	706.83	52
Fe(II) Mult.2	707.73	17	708.13	11	708.43	14	708.01	15	707.82	12	707.83	15
Fe ₃ O ₄ /Fe ₂ O ₃	708.71	10	709.13	9	709.50	7	709.01	8	708.91	13	708.81	9
FeOOH	710.20	11	710.58	20	711.03	13	710.65	13	710.46	17	710.30	18