

**Table S1.** Relative atomic concentrations of elements on ilmenite surfaces.

Number of Times	Samples	Element (%)					
		C(1s)	Ti(2p)	Fe(2p)	O(1s)	Pb(4f)	N(1s)
2	Ilmenite	39.55	11.69	7.06	41.7	-	-
	Ilmenite + SHA	42.11	9.83	6.83	40.81	-	0.42
	Ilmenite + Pb <sup>2+</sup>	38.76	9.60	6.55	43.98	1.11	-
	Ilmenite + Pb <sup>2+</sup> + SHA	40.20	8.01	5.01	43.81	1.96	1.01
3	Ilmenite	36.55	13.11	8.56	41.78	-	-
	Ilmenite + SHA	35.33	12.04	8.01	43.74	-	0.88
	Ilmenite + Pb <sup>2+</sup>	35.86	12.01	7.44	42.64	2.05	-
	Ilmenite + Pb <sup>2+</sup> + SHA	35.69	11.14	7.25	40.72	3.44	1.76