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Supplementary Data

A Green Process for the Synthesis of Porous TiO₂ from Ilmenite Ore using Molten Salt

Alkali Decomposition for Photo-Catalytic Applications

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Supplementary Fig. S1

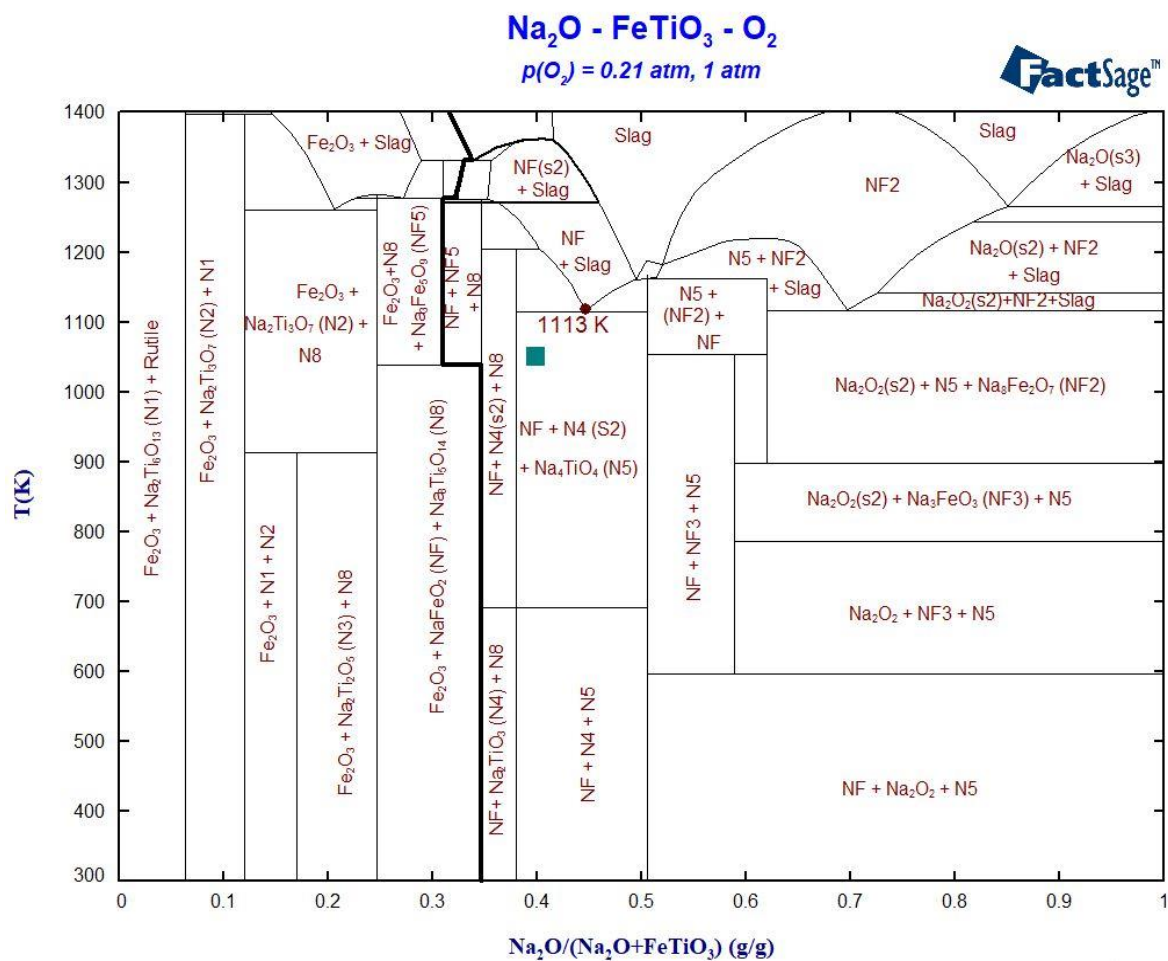


Fig. S1. Pseudo binary phase diagram of Na₂O-FeTiO₃ in presence of atmospheric oxygen.

Supplementary Table. S1

Table. S1. Elemental composition of the alkali decomposed ilmenite, water-leached residue, and calcined titania.

Elements	Alkali Decomposition		Water Leach Residue		Calcined TiO₂	
Conditions	Temperature-1073 K, Time-1hr		S/L ratio -5, Time - 45min, Temperature- 343K.		HCl-10% Excess	
	Wt.%	R²	Wt.%	R²	Wt.%	R²
O	31.1	0.5	40.5	0.8	39.1	1.1
Na	30.1	0.6	4.1	0.4	0	0
Fe	20.2	0.4	26.96	0.6	5.1	1
Ti	17.4	0.5	24.87	0.5	55.8	0.8
Si	0.3	0.1	0	0	0	0
Al	0.3	0.1	0	0	0	0
Mn	0.2	0.1	0.22	0.1	0	0
Mg	0.2	0.1	0.21	0.1	0	0
V	0.2	0.1	0	0	0	0
Product Weight (g)	~16.5		~11.5		~4.83	

Supplementary Fig. S2

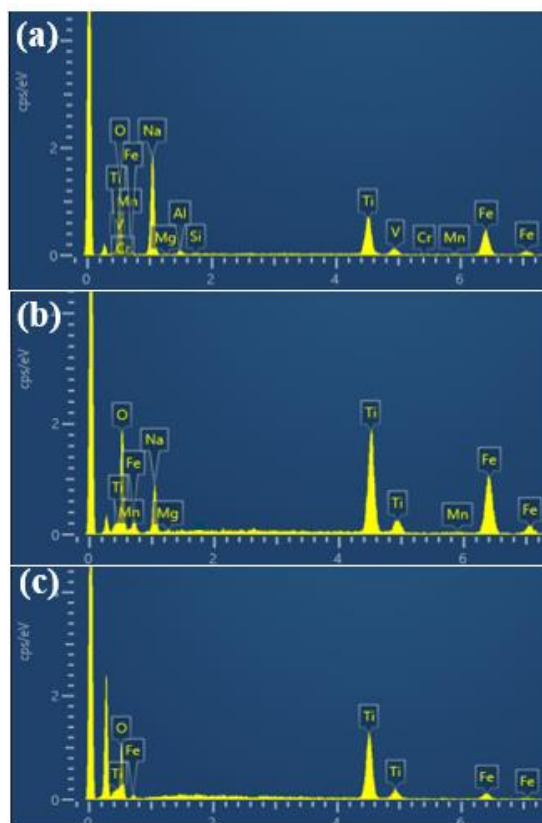


Fig. S 2. EDS spectrum of the solid residues (a) alkali decomposed ilmenite, (b) water-leached residue, and (c) calcined TiO_2 .