

# Supplementary Data

**High yield combustion synthesis of nano-magnesia and its application for fluoride removal**

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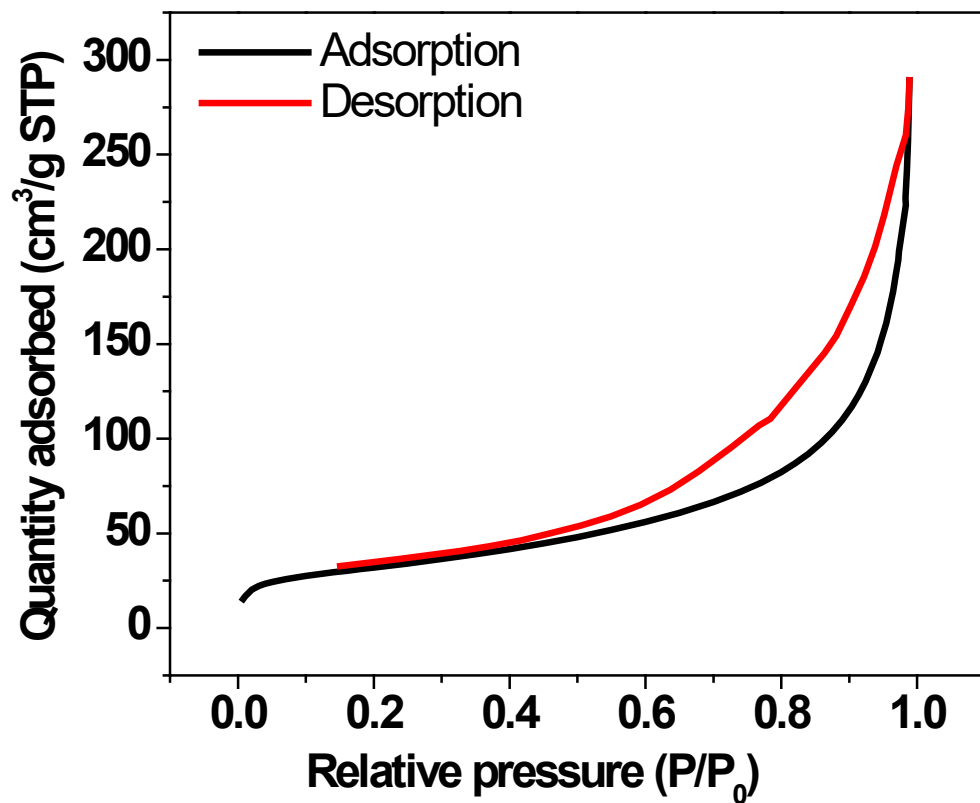


Fig. S1 Nitrogen adsorption/desorption isotherms of the as synthesized NM.

Tables S1A and S1B. Raw materials cost for the synthesis of (A) as synthesized NM,(B) using glycine as the sole fuel.

<b>S1A</b>					
<b>Material</b>	<b>volume (ml)</b>	<b>Molar concentration of raw materials (M)</b>	<b>Quantity of raw material used (gm)</b>	<b>Cost per gm of raw material (INR)</b>	<b>Total cost of raw material used (INR)</b>
Magnesium Nitrate (hexahydrate)	50	1	12.82	0.0240	0.31
Urea	50	1.6	4.81	0.02	0.10
Glycine	50	0.6	2.25	0.29	0.65
Cellulose	-	-	1.2	0.16	0.19
Deionized water	50	-	50	0.001	0.05
				<b>Sum</b>	<b>1.33</b>
				Cost per kg of product = (Total cost of raw materials used/yield of product)*1000 = (1.3/2)*1000 = 649.9 INR	

<b>S1B</b>					
<b>Material</b>	<b>volume (ml)</b>	<b>Molar concentration of raw materials (M)</b>	<b>Quantity of raw material used (gm)</b>	<b>Cost per gm of raw material (INR)</b>	<b>Total cost of raw material used (INR)</b>
Magnesium Nitrate (hexahydrate)	50	1	12.82	0.0240	0.31
Glycine	50	1.1	4.13	0.29	1.20
Deionized water	50	-	50	0.001	0.05
				<b>Sum</b>	<b>1.55</b>
				Cost per kg of product = (Total cost of raw materials used/yield of product)*1000 = (1.55/2)*1000 = 777.46 INR	

Note: All the material costs are calculated based on the industrial grade raw materials.