

Supplementary Information

Iron oxide (Fe_3O_4) supported SiO_2 magnetic nanocomposites for efficient Adsorption of Fluoride from Drinking Water: Synthesis, Characterization and Adsorption Isotherm Analysis

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S1. list of the chemicals and reagents used for the synthesis of iron oxide nanoparticle and their silica composites

| No | Chemical and Reagents | Brand/ % Purity |
|----|--|-----------------------------|
| 1 | Iron (II) sulfate heptahydrate $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ | Sigma-Aldrich 98.0% purity |
| 2 | Iron(III) chloride hexahydrate $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ | Sigma-Aldrich 98.0% purity |
| 3 | Ammonia NH_3 | Analar Normapur 28-32% |
| 4 | Sodium Silicate $\text{Na}_2\text{O}(\text{SiO}_2)\cdot\text{H}_2\text{O}$ | Sigma-Aldrich 98.0% purity. |
| 5 | Sodium hydroxide NaOH | Sigma-Aldrich 99.0% purity |
| 6 | Sodium carbonate Na_2CO_3 | Sigma-Aldrich 99.0% purity |
| 7 | Sodium nitrate NaNO_3 | Daejung 99 % |
| 8 | Calcium nitrate tetrahydrates $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ | Daejung 97.0% |

| | | |
|----|----------------------------|--------------------------------------|
| 9 | Sodium Fluoride NaF | Sigma-Aldrich 98.5% purity |
| 10 | UV/Vis Spectrophotometer | Scilogex SP-UV1100 |
| 11 | pH meter | PHS-25CW/Benchtop pH/mV Meter, BANTE |
| 12 | Muffle Furnace | (KLS-WS Thermconcept) |
| 13 | Magnetic stirring hotplate | 78-1 Jabtech, Daihan |
| 14 | Drying oven | Thermconcept |