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Organosilane based magnetic silica nanoparticles for the detection of Al (III) ions and construction of molecular logic gate

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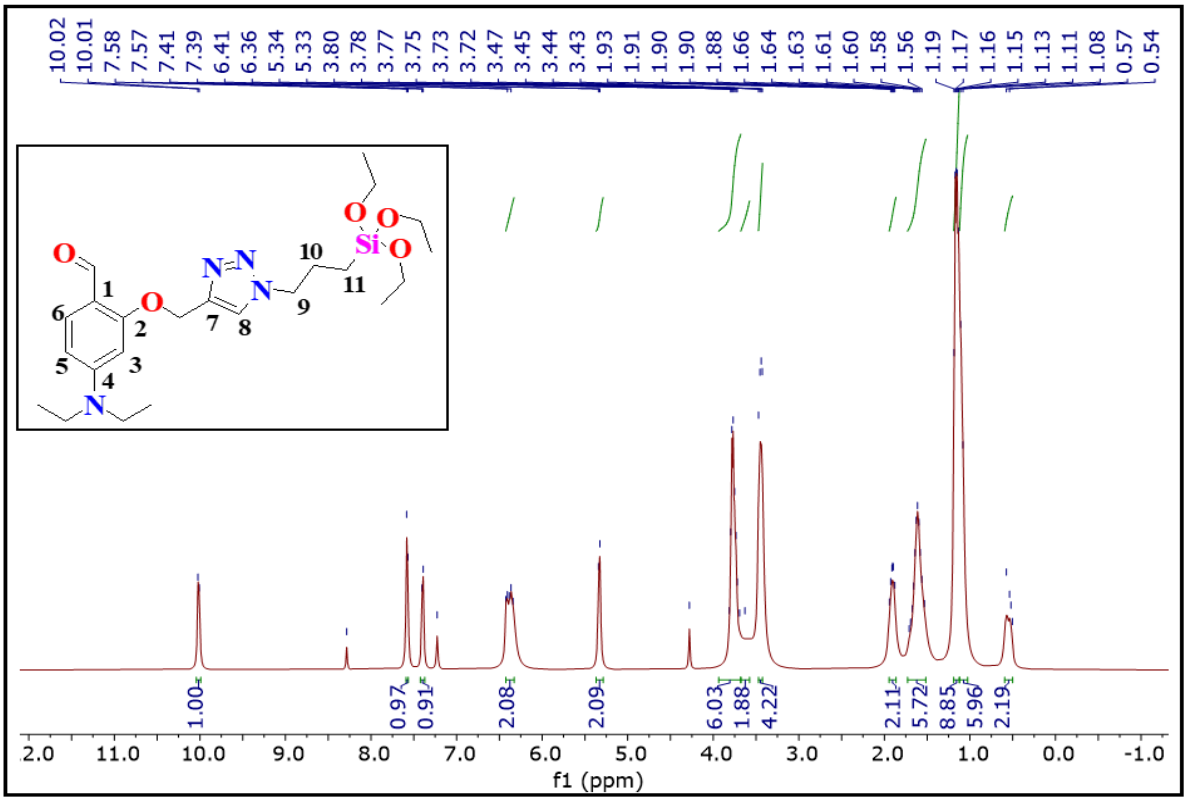

Fig. S1. [1]H NMR spectrum of compound 3

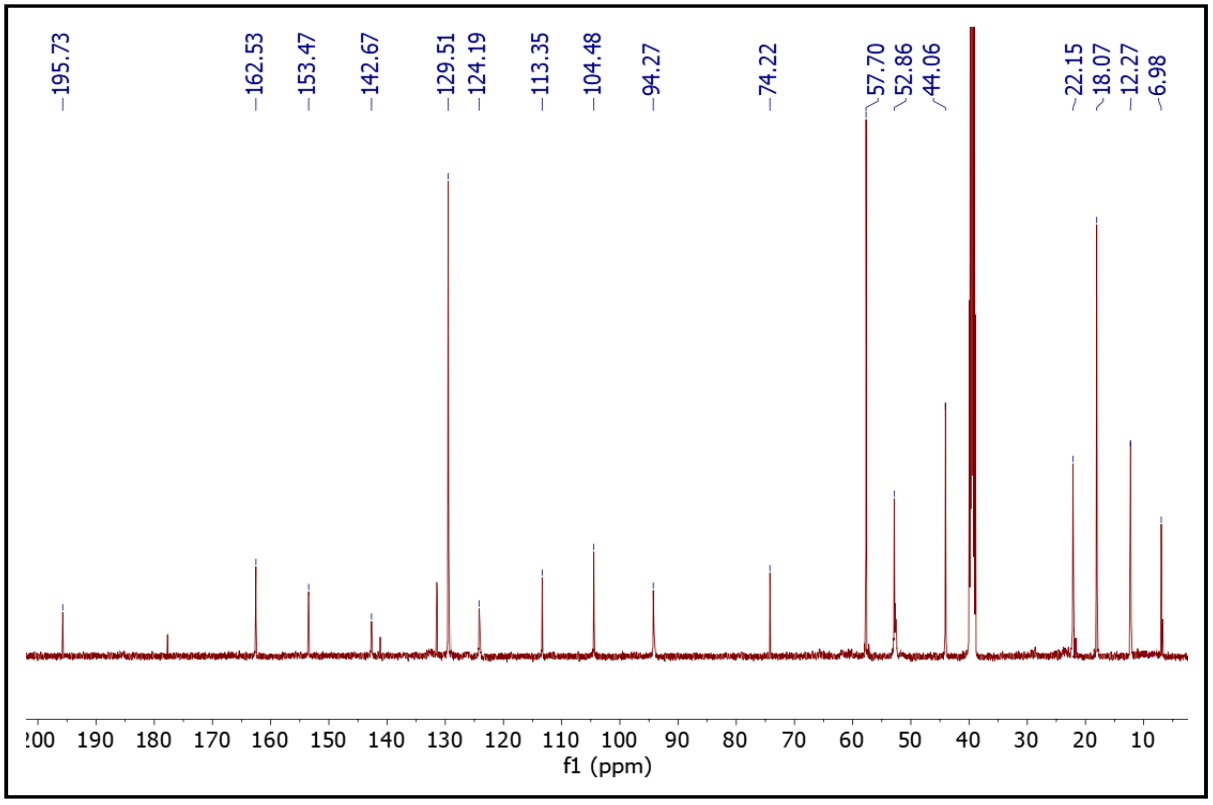

Fig. S2. [13]C NMR spectrum of compound 3

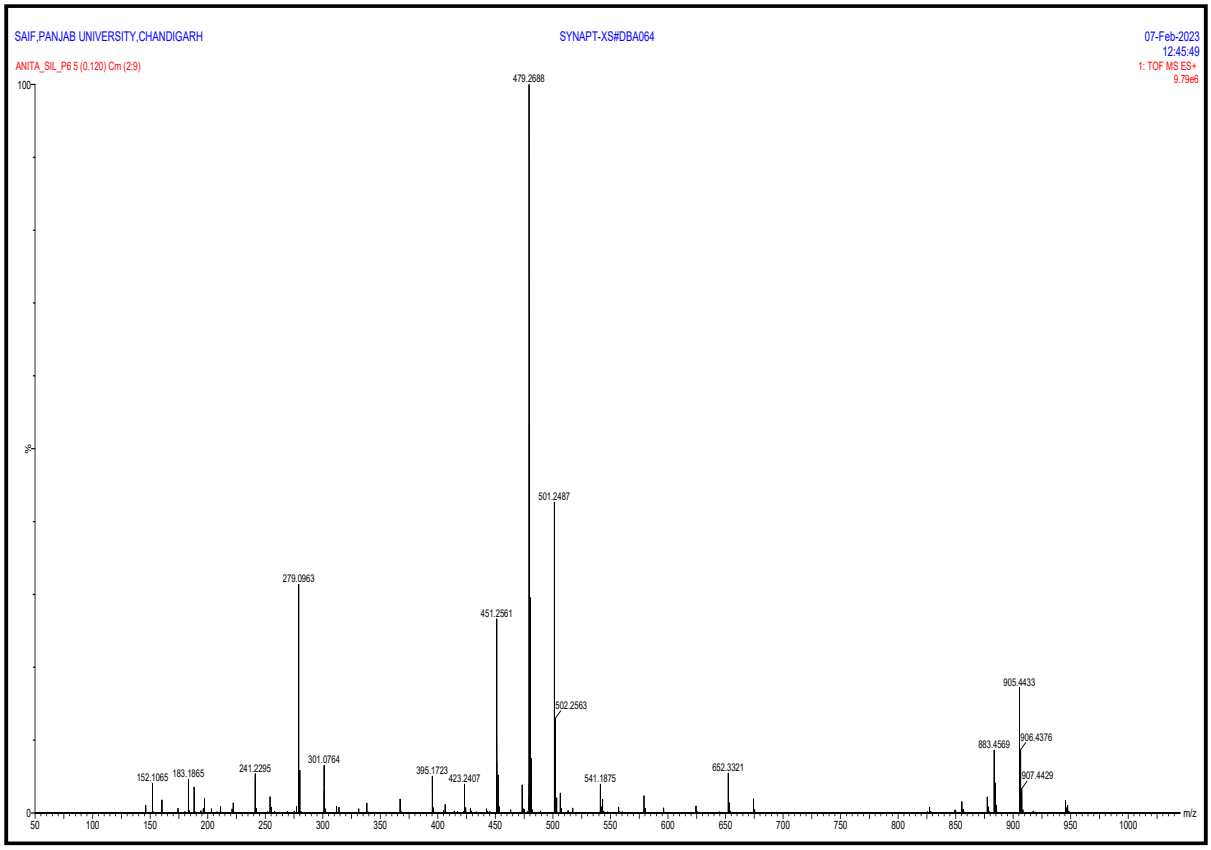

Fig. S3. Mass spectrum of compound 3

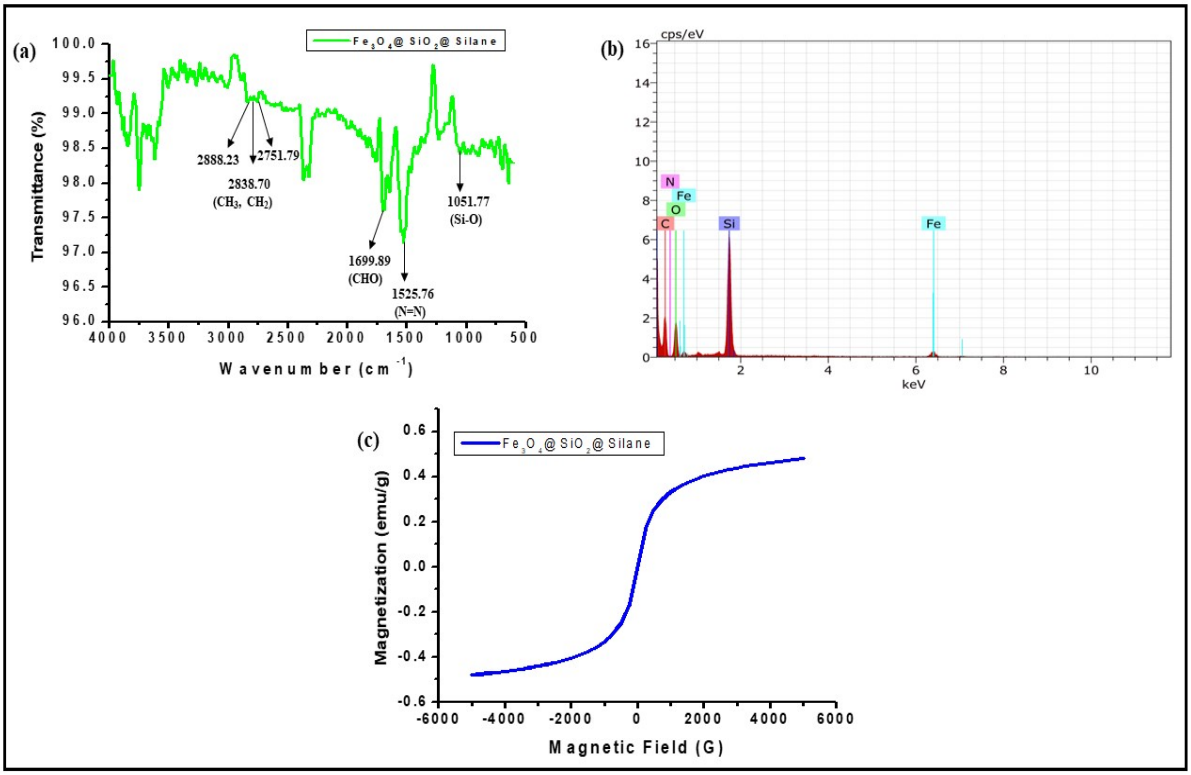

Fig. S4. (a) FT-IR spectrum of Fe_3O_4@SiO_2@silane, (b) EDX analysis, (c) Hysteresis loop of Fe_3O_4@SiO_2@silane

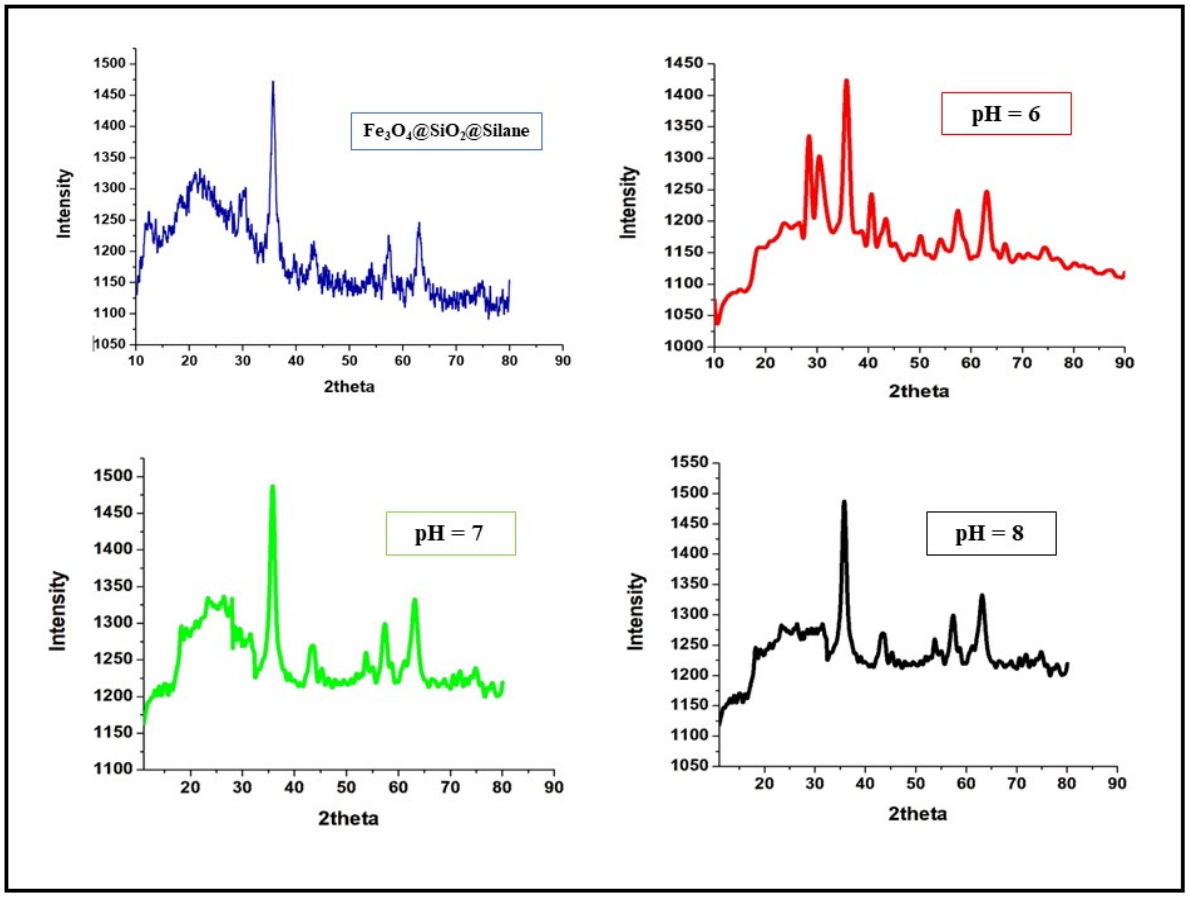

Fig. S5. PXRD patterns of Fe_3O_4@SiO_2@silane with different pH treatments

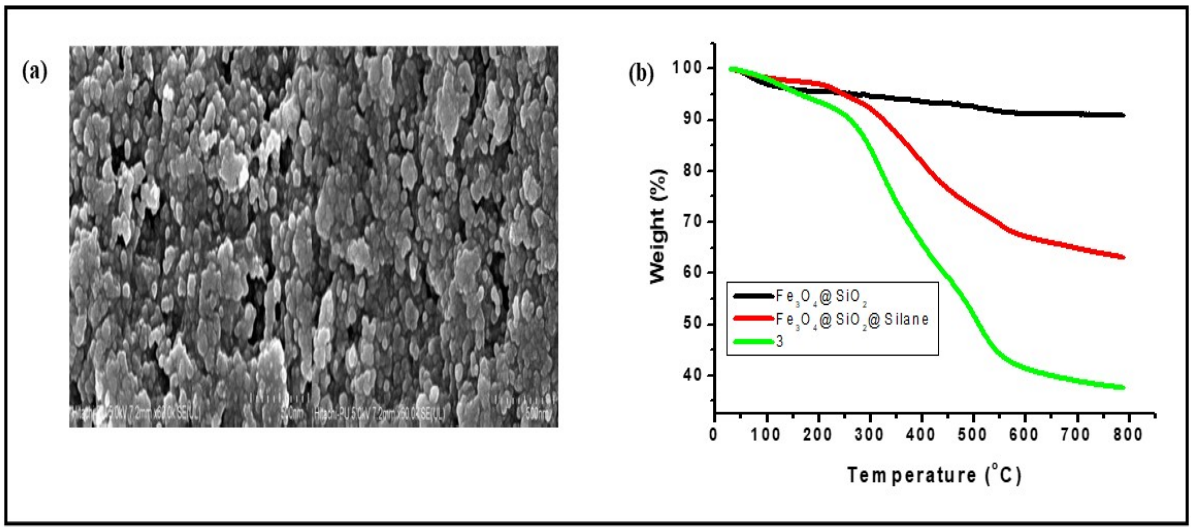

Fig. S6. (a) FE-SEM images of Fe_3O_4@SiO_2@silane at different magnifications, (b) Thermogravimetric curves of Fe_3O_4@SiO_2, Fe_3O_4@SiO_2@silane and 3

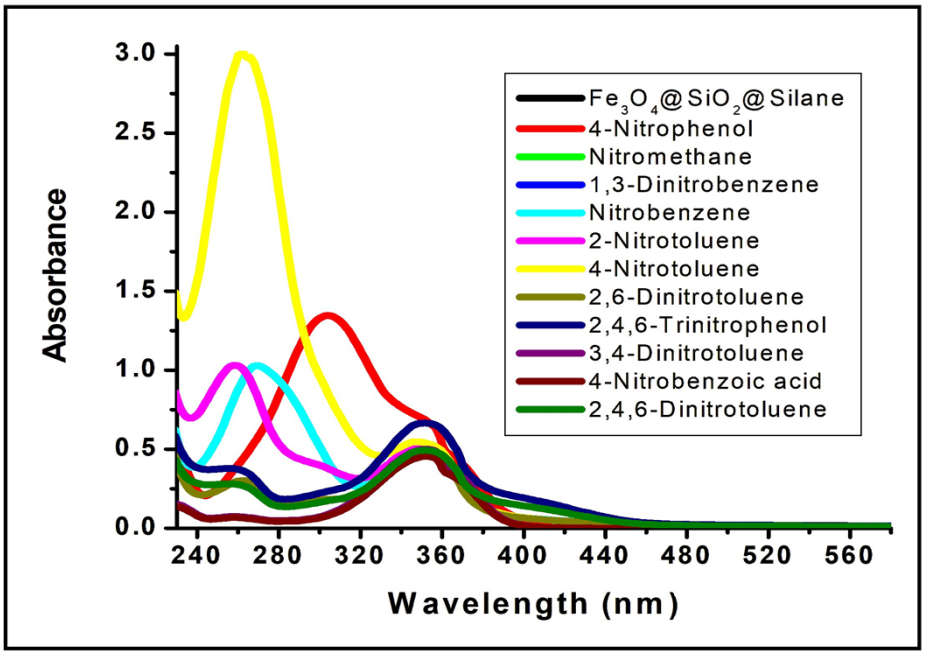

Fig. S7. UV-Visible absorption changes of sensor Fe_3O_4@SiO_2@silane with various nitro-compounds

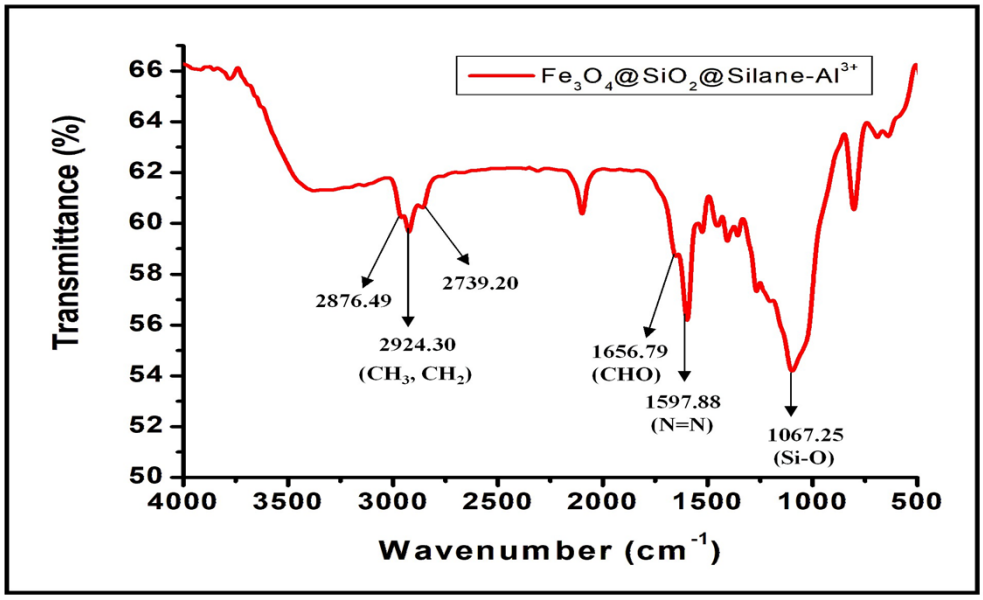

Fig. S8. IR spectra of Fe_3O_4@SiO_2@silane-Al (III)