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Supporting Information

Magnetic nanoparticles-supported DABCO tribromide: a versatile nanocatalyst for the synthesis of quinazolinones and benzimidazoles and protection/deprotection of hydroxyl groups

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Figures

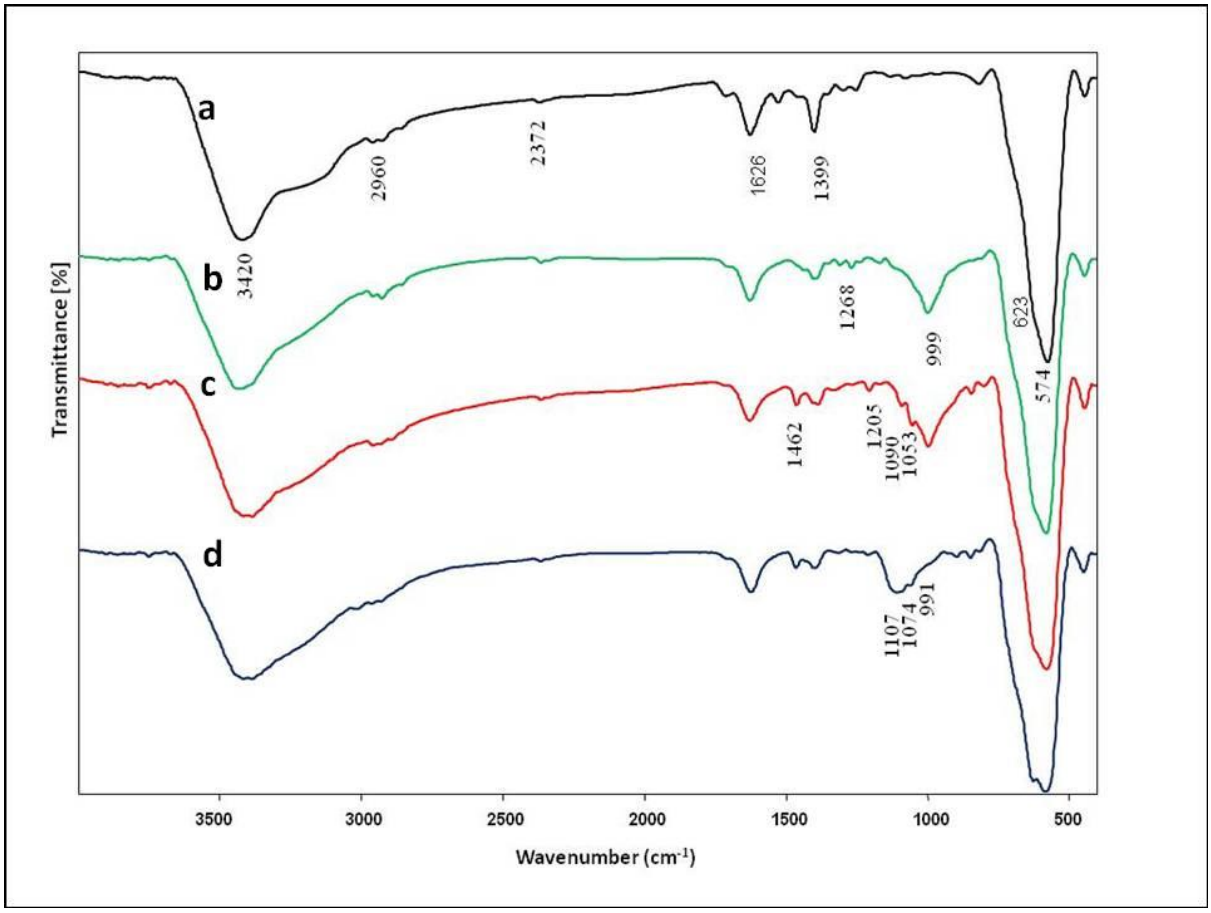

Fig. S1. FTIR spectra of MNPs (a), MNPs-CPTMS (b), MNPs-DABCO (c) and MNPs-DABCO tribromide (d)

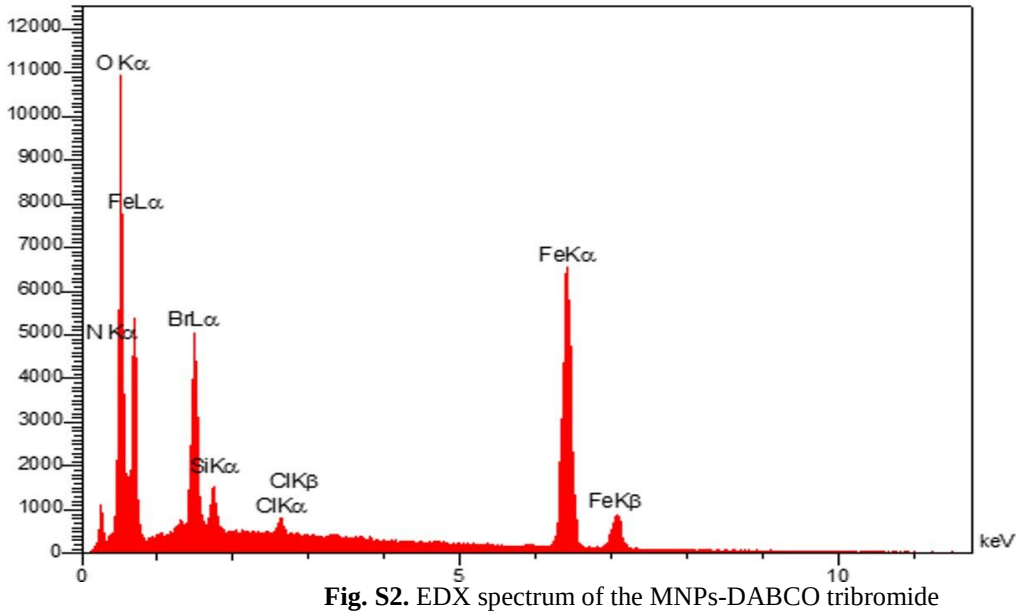

Fig. S2. EDX spectrum of the MNPs-DABCO tribromide

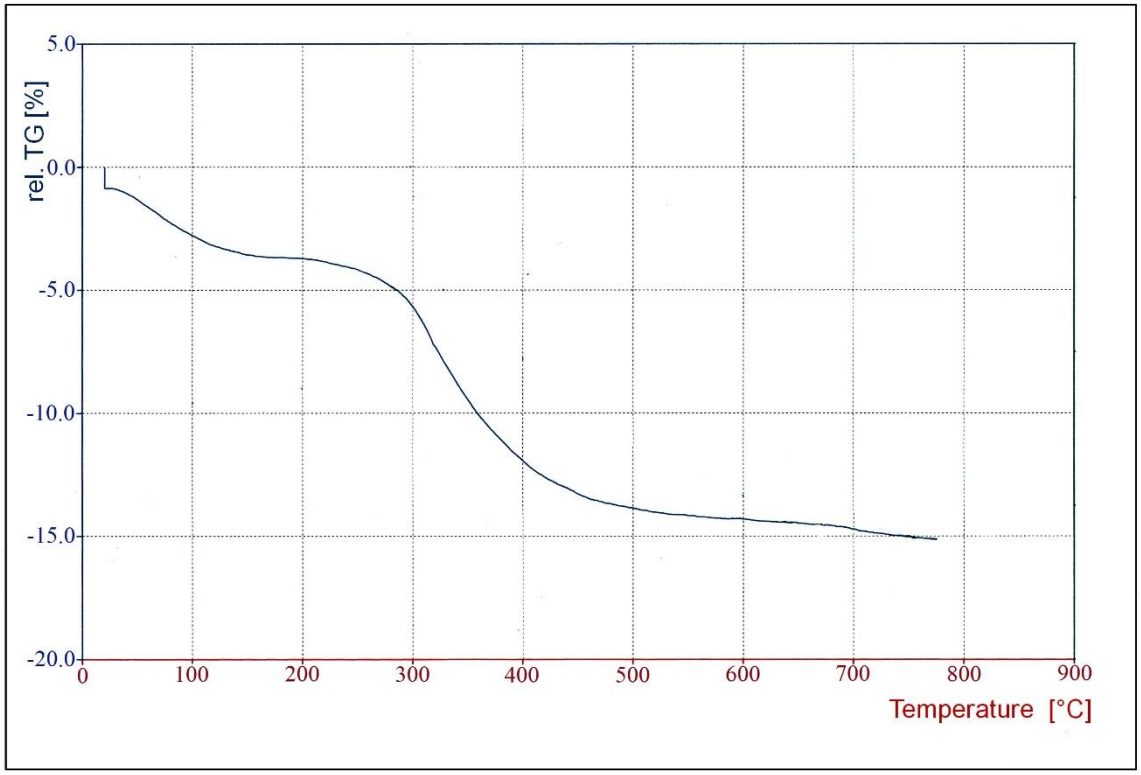

Fig. S3. TGA profile of the MNPs-DABCO tribromide

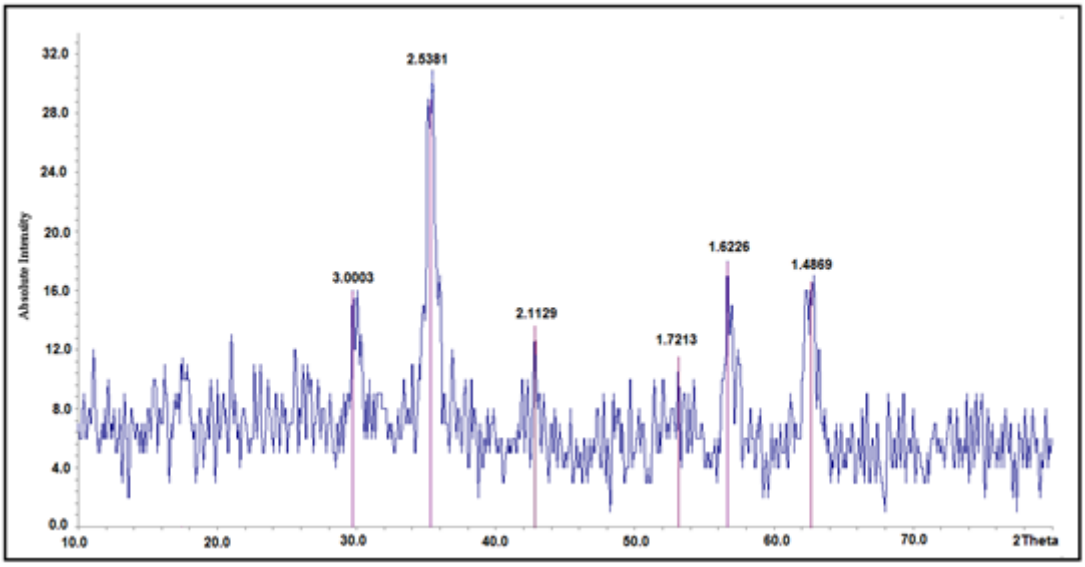

Fig. S4. XRD pattern of the MNPs-DABCO tribromide

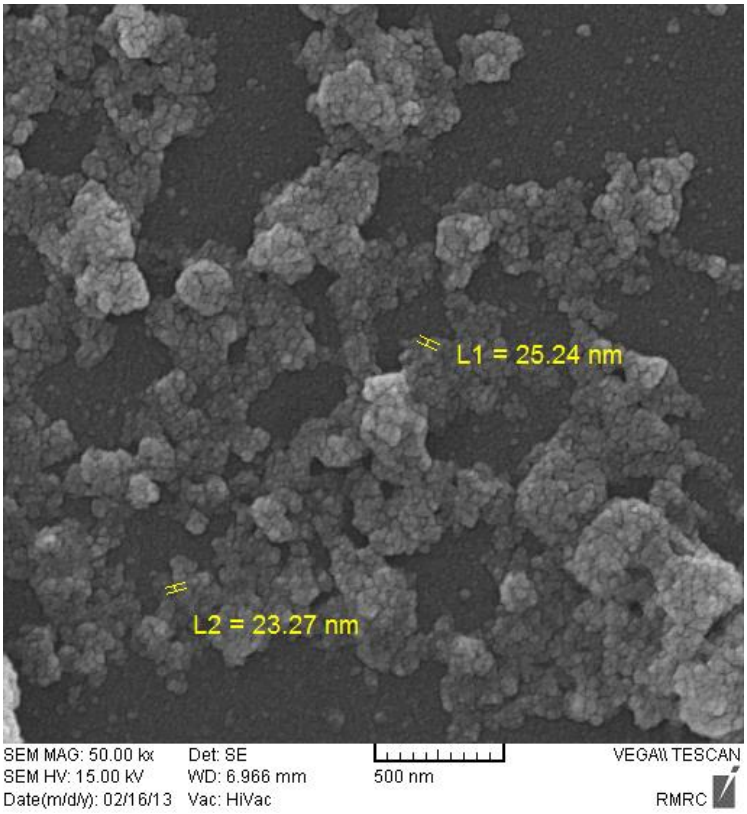

Fig. S5. SEM image of the MNPs-DABCOtribromide

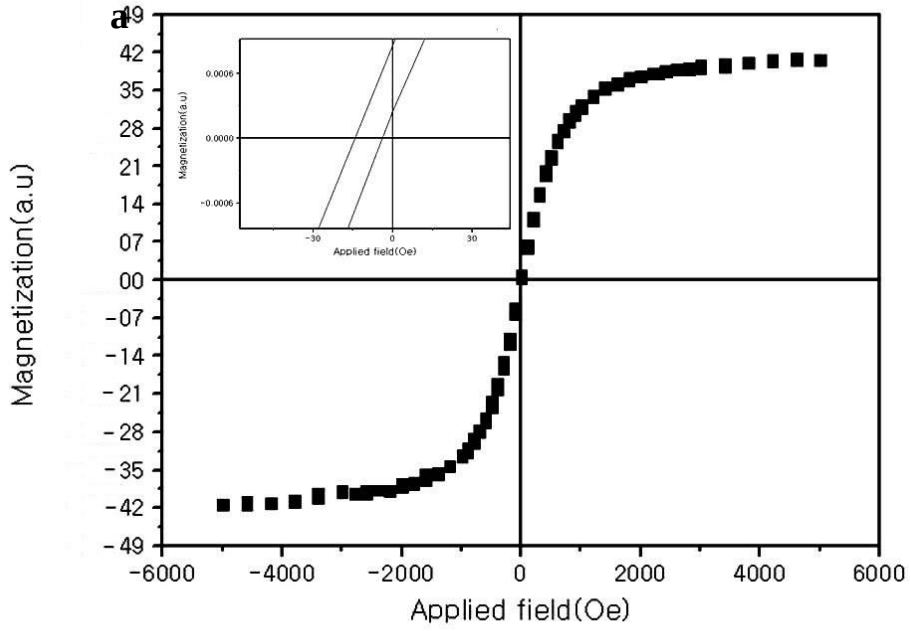

Fig. S6. Magnetization curve for MNPs-DABCO tribromide at room temperature (Left inset: the magnified field from -30 to 30 Oe)

Selected spectra data

2-Phenylquinazolin-4(3*H*)-one (Table 2, entry 1)

Mp 239-240 ˚C; IR (KBr) 3190 (NH), 1668 (C=O), 1600, 1427, 1369, 1234, 1108, 841, 710, 612 cm^{-1}; ^1H NMR (400 MHz, $CDCl_3$): δ (ppm) 7.10 (m, 1H, Ph), 7.42-7.63 (m, 2H, Ph), 7.72-7.78 (m, 2H, Ph), 8.11 (t, 2H, *J* = 8.0, Ph), 8.27 (d, 1H, *J* = 8.0 Hz, Ph), 10.80 (s, br, 1H, NH).

2-(2,3-Dichlorophenyl)quinazolin-4(3*H*)-one (Table 2, entry 3)

Mp 229-231 ˚C; IR (KBr) 3200 (NH), 1674 (C=O), 1606, 1470, 1320, 1110, 960, 875, 806, 760, 687 cm^{-1}; ^1H NMR (400 MHz, $CDCl_3$): δ (ppm) 11.20 (s, br, 1H), 8. 20 (d, *J* = 8.0 Hz, 1H, Ph), 7.94 (t, *J* = 8.0 Hz, 1H, Ph), 7.74 (d, *J* = 8.0 Hz, 1H), 7.49-7.56 (m, 4H).

4-(1*H*-benzo[*d*]imidazol-2-yl)-*N*,*N*-dimethylaniline (Table 4, entry 3)

Mp 228-229 ˚C; IR (KBr) υ 3417 (NH), 2924 (C-H), 1620 (C=N) cm^{-1}; ^1H NMR (400 MHz, $CDCl_3$): δ (ppm): 3.32 (s, 6H), 5.48 (br, s, 1H, NH), 6.95 (d, *J* = 8.2 Hz, 2H, Ph), 7.3-7.84 (m, 6H, Ar).

2-(2,3-dichlorophenyl)-1*H*-benzo[*d*]imidazole (Table 4, entry 8)

Mp 277-279 ˚C; IR (KBr) υ 3416 (NH), 1618 (C=N) cm^{-1}; ^1H NMR (400 MHz, $CDCl_3$): δ (ppm): 5.43 (br, s, 1H, NH), 6.62-7.1 (m, 3H, Ph), 7.7-8.00 (m, 4H, Ar).