Supporting Information

The crosslinked chitosan nanoparticles-anchored magnetic multi-wall carbon nanotubes: A bio-nanoreactor with extremely high activity toward click-multi-component reactions

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Proposed mechanism for the synthesis of 2,3-dihydroquinazolin-4(1$H$)-ones catalyzed by CS NPs/MWCNT@Fe$_3$O$_4$ bio-nanoreactor
Proposed mechanism for the synthesis of trisubstituted imidazoles catalyzed via CS NPs/MWCNT@Fe₃O₄ bi-nanoreactor.
Proposed mechanism of the Huisgen 1,3-dipolar cycloaddition reaction with CS NPs/MWCNT@Fe₃O₄ bio-nanoreactor
Analytical data of the new compounds

{2-[3-(4-Methyl-benzyl)-4-oxo-1,2,3,4-tetrahydro-quinazolin-2-yl]-phenoxy}-acetic acid ethyl ester (4g).
Cream powder, 189-190 °C, $^1$H NMR (300 MHz, DMSO-$d_6$) δ (ppm): 1.18 (3H, t), 2.27 (3H, s), 3.62-3.67 (1H, d, J=15 Hz), 4.14-4.21 (2H, q), 4.37 (1H, s), 4.83- 4.98 (2H, q), 5.35-5.40 (2H, d, J=15 Hz), 6.01 (1H, s), 6.48-7.26 (12 H, m); $^{13}$C NMR (75 MHz, DMSO-$d_6$) δ (ppm) 14.4, 21.1, 46.7, 61.3, 64.9, 65.3, 113.0, 114.8, 115.0, 116.8, 121.6, 126.3, 127.5, 128.3, 129.5, 130.1, 132.1, 133.8, 134.8, 136.3, 137.3, 146.8, 150.2, 155.2, 163.0, 169.2; Anal. Calcd. (%) for C$_{26}$H$_{26}$N$_2$O$_4$: C, 72.54; H, 6.09; N, 6.51. Found: C, 72.19; H, 6.37; N, 6.83.

2-(2-(4,5-diphenyl-1H-imidazol-2-yl)phenoxy)acetic acid (8g).
Off-white powder, 103-105 °C, $^1$H NMR (300 MHz, DMSO-$d_6$) δ (ppm) 4.92 (2 H, s, CH$_2$), 7.14–8.22 (14 H, m, Ar), 11. 35 (1 H, brs, NH); $^{13}$C NMR (75 MHz, DMSO-$d_6$) δ (ppm) 66.5, 114.3, 118.8, 122.2, 127.6, 128.0, 128.2, 128.9, 129.9, 130.2, 133.1, 143.2, 154.5, 171.9; Anal. Calcd. (%) for C$_{23}$H$_{18}$N$_2$O$_3$: C, 74.58; H, 4.90; N, 7.56. Found: C, 74.69; H, 5.07; N, 7.23.

1-(3-Iodobenzyl)-4-p-tolyl-1H-1,2,3-triazole (12f).
Cream powder, 178-181 °C,$^1$H NMR (300 MHz, CDCl$_3$) δ (ppm) 2.38 (3H, s), 5.51 (2H, s), 7.09–7.14 (1H, m), 7.22–7.27 (3H, m), 7.62–7.72 (5H, m); $^{13}$C NMR (75 MHz, CDCl$_3$) δ (ppm) 21.3, 53.2, 94.7, 118.85, 119.25, 119.58, 125.63, 127.51, 129.50, 129.63, 130.77, 136.80, 136.97, 137.86, 138.16, 148.49, 158.53; Anal. Calcd. (%) for C$_{16}$H$_{14}$IN$_3$: C, 51.22; H, 3.76; N, 11.20. Found: C, 50.99; H, 3.97; N, 11.42.