Figure S1: FTIR spectra (4000-400) of (a) AAPTMS@GO, (b) Ni-AAPTMS@GO, (c) Cu-AAPTMS@GO, (d) (1:1) Cu-Ni-AAPTMS@GO, (e) (1:1) Cu(0)-Ni(0)-AAPTMS@GO, (f) (1:2) Cu(0)-Ni(0)-AAPTMS@GO, and (g) (2:1) Cu(0)-Ni(0)-AAPTMS@GO.
Figure S2: Raman spectra (1200-2000) of AAPTMS@GO (a), Cu-AAPTMS@GO (b), Ni-AAPTMS@GO (c), (1:1) Cu-Ni-AAPTMS@GO (d) and (1:1) Cu(0)-Ni(0)-AAPTMS@GO (e).
Figure S3: (A) UV–Vis absorption spectra during the catalytic reduction of p-nitrophenol over (1:1) Cu(0)-Ni(0)-AAPTMS@GO catalyst. (b) C/C0 and (c) ln(C/C0) versus reaction time for the reduction of p-nitrophenol over (1:1) Cu(0)-Ni(0)-AAPTMS@GO catalyst.
Figure S4 (a): $^1$H NMR spectrum of final product (p-aminophenol).
Figure S4(b): $^{13}$C NMR spectrum of final product (p-aminophenol).
Figure S4(c): FTIR spectrum of final product (p-aminophenol).
Figure S5: XRD of (a) 6th cycle (b) 7th cycle of reused catalyst and FTIR spectra of (c) 6th cycle (d) 7th cycle of reused catalyst, SEM image of (e) 6th cycle (scale bar = 2μm) (h) 7th cycle (scale bar = 2μm), TEM image of (f) 6th cycle (scale bar =100 nm) (i) 7th cycle (scale bar = 50 nm), and HRTEM analysis of (g) 6th cycle (scale bar =20 nm)  (j) 7th cycle (scale bar = 200 nm) of reused (1:1) Cu(0)-Ni(0)-AAPTMS@GO catalyst.