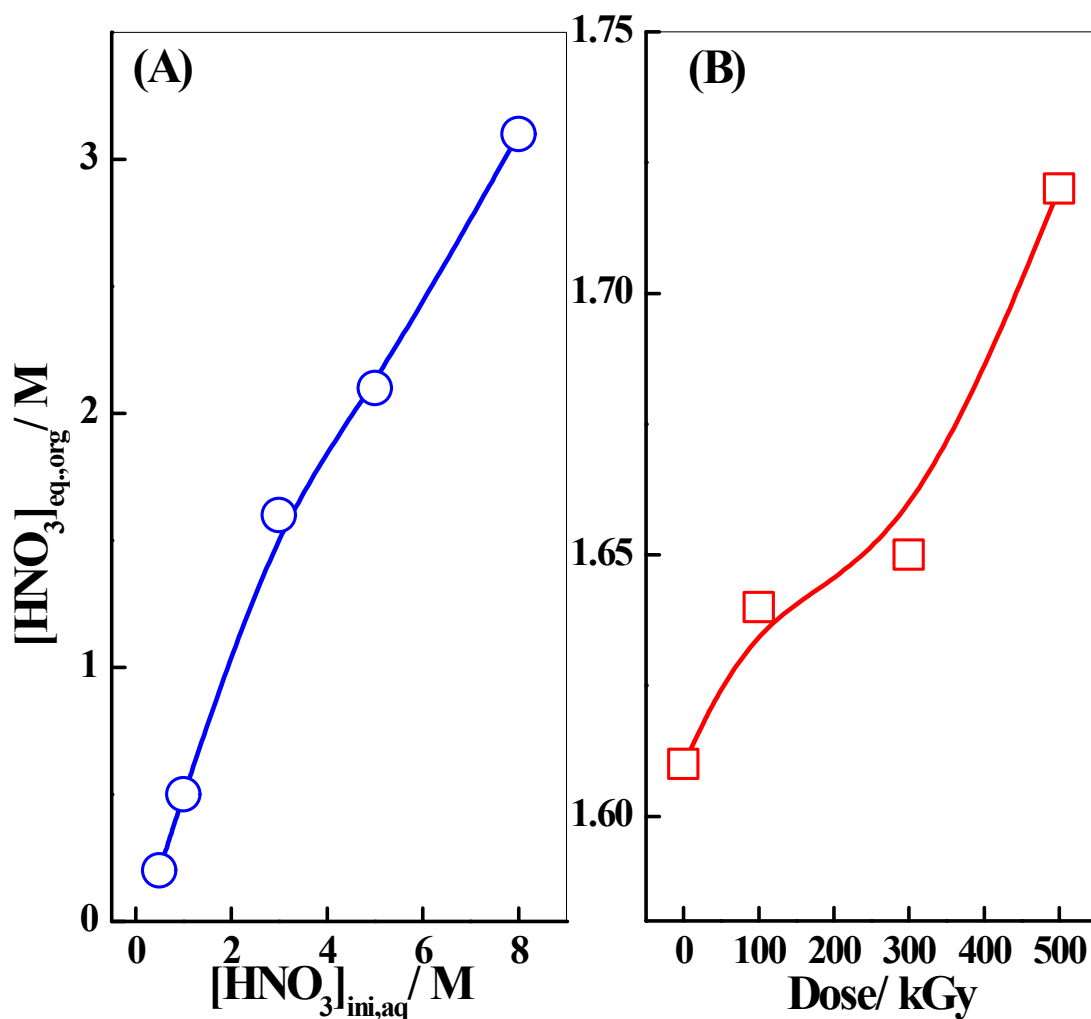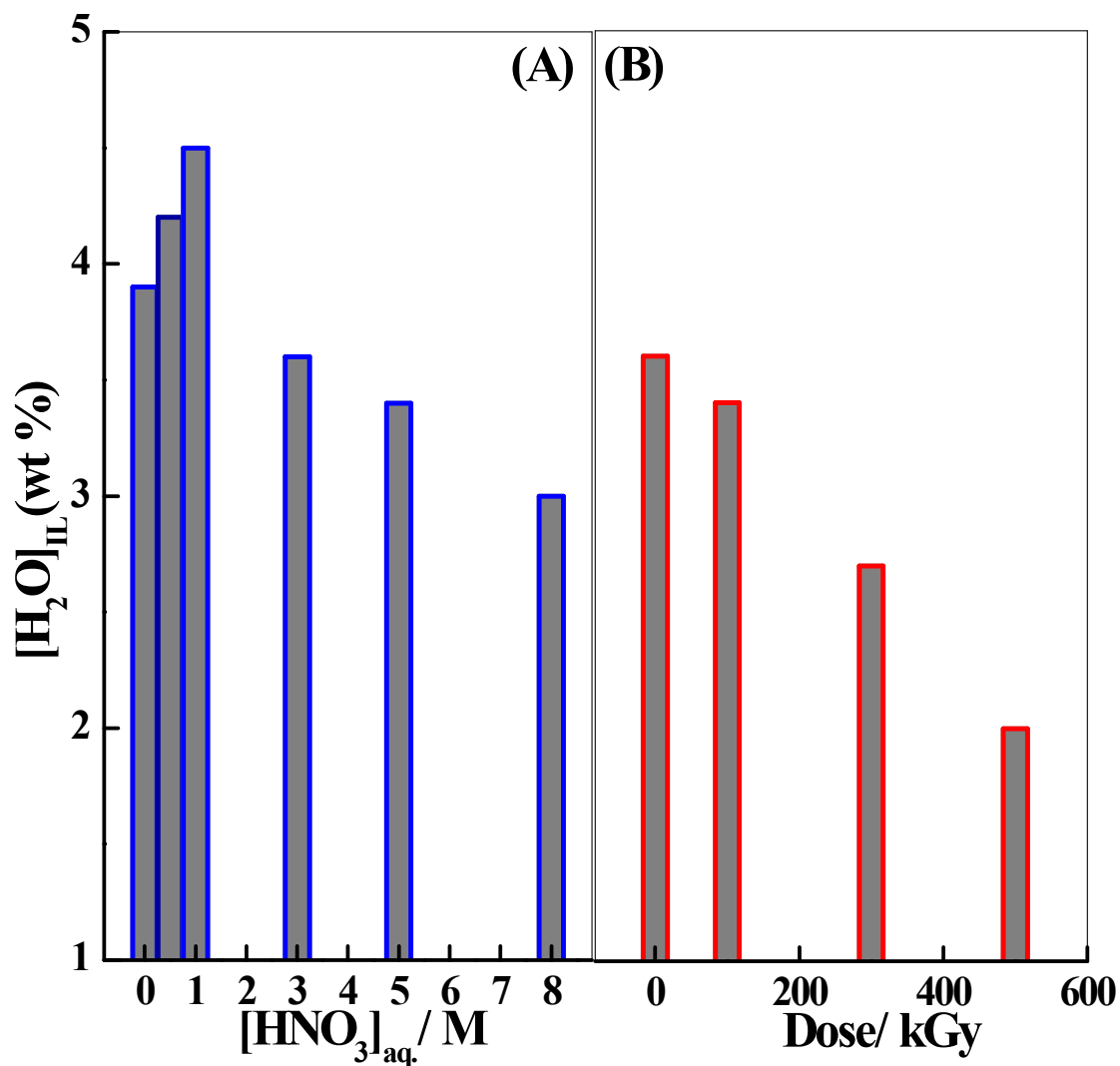## Supplementary Information Sheet

Figure 1S. Nitric acid extraction by $[P_{66614}][NO_3]$. Variation of the equilibrium concentration of nitric acid in ionic liquid phase as a function of initial concentration of nitric acid present in aqueous phase; Aqueous phase: 0.5 M - 8 M nitric acid; Temperature=298 K; Equilibration time = 1 hour; O/A = (A); Variation of the equilibrium concentration of nitric acid in ionic liquid phase as a function of applied radiation dose; Aqueous phase: 3 M nitric acid; applied dose = 0 kGy - 500 kGy; Temperature=298 K; Equilibration time = 1 hour; O/A = 1(B).

Figure 2S. Water extraction by [P$_{66614}$][NO$_3$]. Variation of the equilibrium concentration of water in ionic liquid phase as a function of initial concentration of nitric acid present in aqueous phase; Aqueous phase: 0.5 M - 8 M nitric acid; Temperature=298 K; Equilibration time = 1 hour; O/A = (A); Variation of the equilibrium concentration of water in ionic liquid phase as a function of applied radiation dose; Aqueous phase: 3 M nitric acid; applied dose = 0 kGy - 500 kGy; Temperature=298 K; Equilibration time = 1 hour; O/A = 1(B).