Supporting Information for publication:

γ-Radiolysis of Room Temperature Ionic Liquids.

An EPR Spin-Trapping Study

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The E_γ' center signal in irradiated EPR quartz cell (Figure S1). Higher resolution EPR spectra adducts derived from Et_3NH^+ $Tf2N^-$ with 25 mM POBN diluted in CH_2Cl_2 with 0.1G modulation amplitude (Figure S2). EPR spectra and G values of adducts observed in irradiated ILs at various POBN concentrations, diluted in CH_2Cl_2 (Figures S3-S5) (PDF).

Figure S1. The E_γ' center signal from the irradiated EPR quartz cell serves as an internal magnetic field reference.

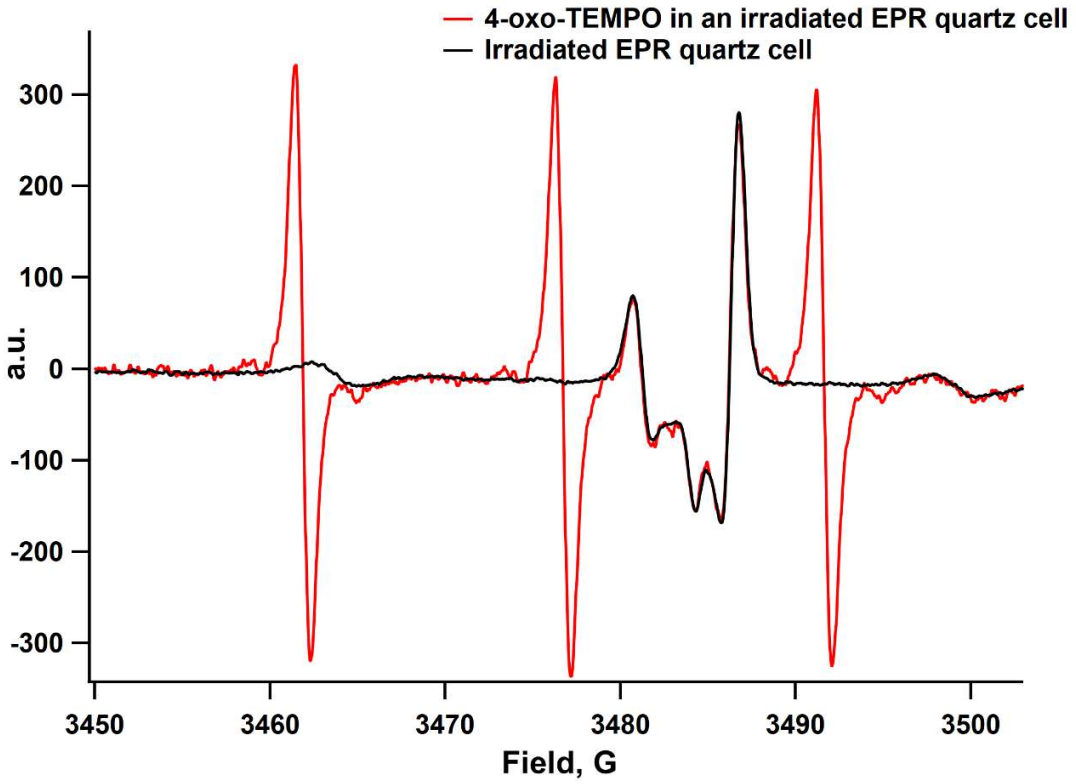

Figure S2. Higher resolution EPR spectra adducts derived from 6.6kGy irradiated Et_3NH^+ Tf2N$^-$ with 25 mM POBN diluted in CH_2Cl_2 with 0.1G modulation amplitude. Fitting parameters in Gauss: 85% $^{\bullet}CF_3$ adduct, $a_{H\beta}$ = 1.35, $a_{F\gamma}$ = 1.77, (LW = 0.47), $a_{H\gamma}$ = 0.28; 15% triplet of doublets, $a_{H\beta}$ = 3.7 (LW = 1.7), Gaussian FWHM=0.08.

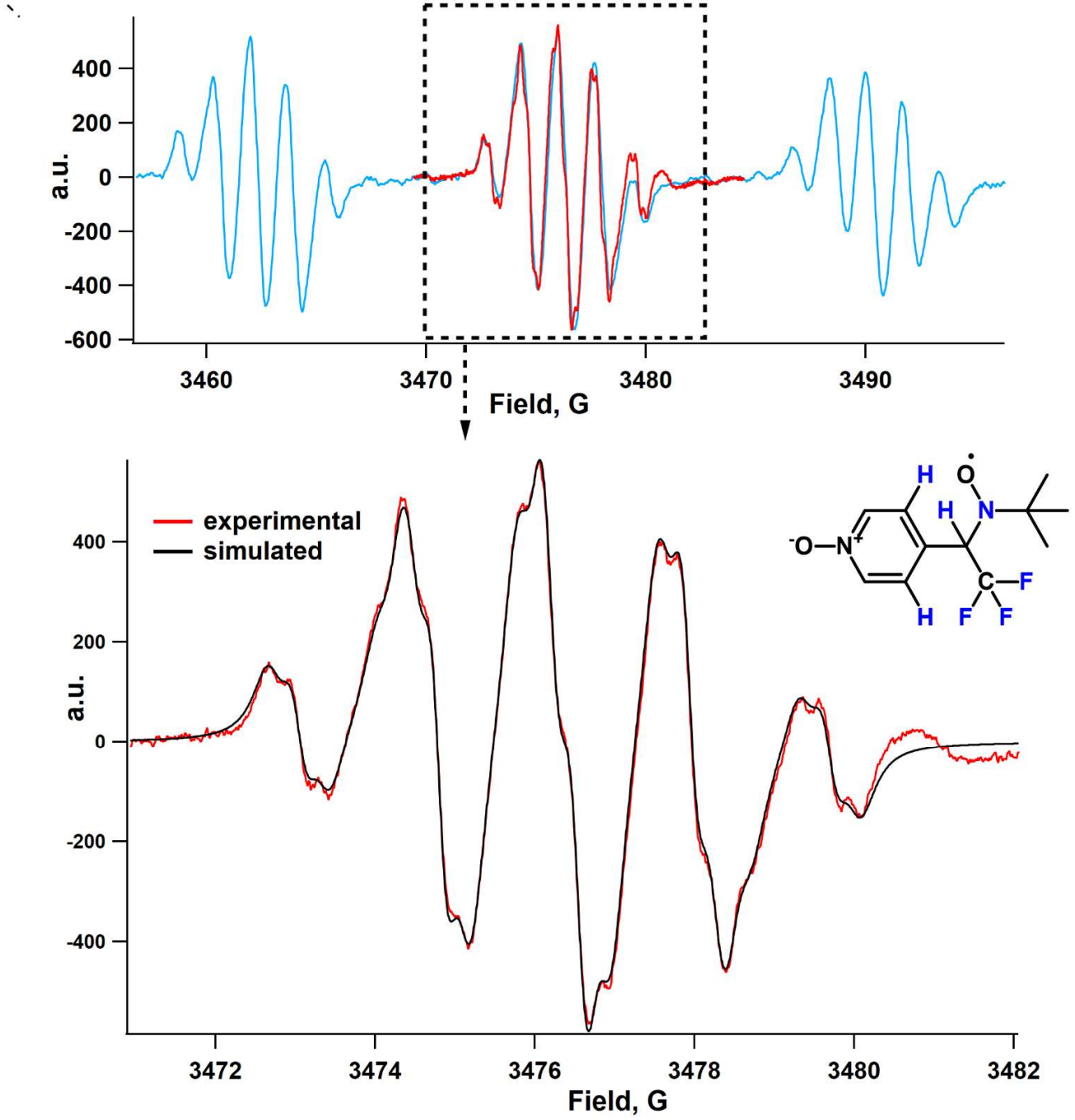

Figure S3. EPR spectra (A) and G values (B) of adducts observed in 1.2kGy irradiated bmpyrr$^+$ Tf_2N^- at various POBN concentrations, diluted in CH_2Cl_2.

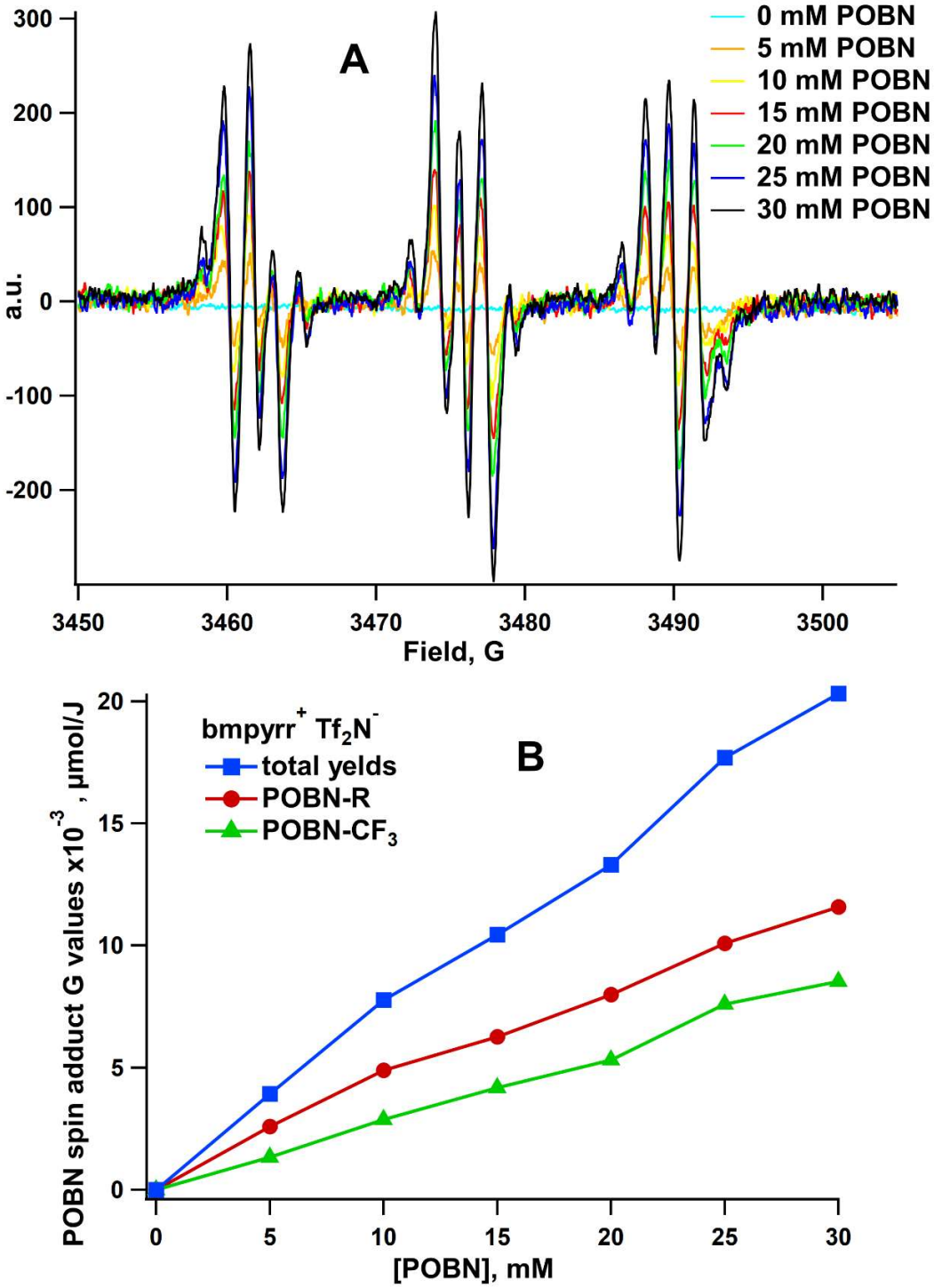

Figure S4. EPR spectra (A) and G values (B) of adducts observed in 1200Gy irradiated P_{66614}^{+} Tf_2N^{-} at various POBN concentrations, diluted in CH_2Cl_2.

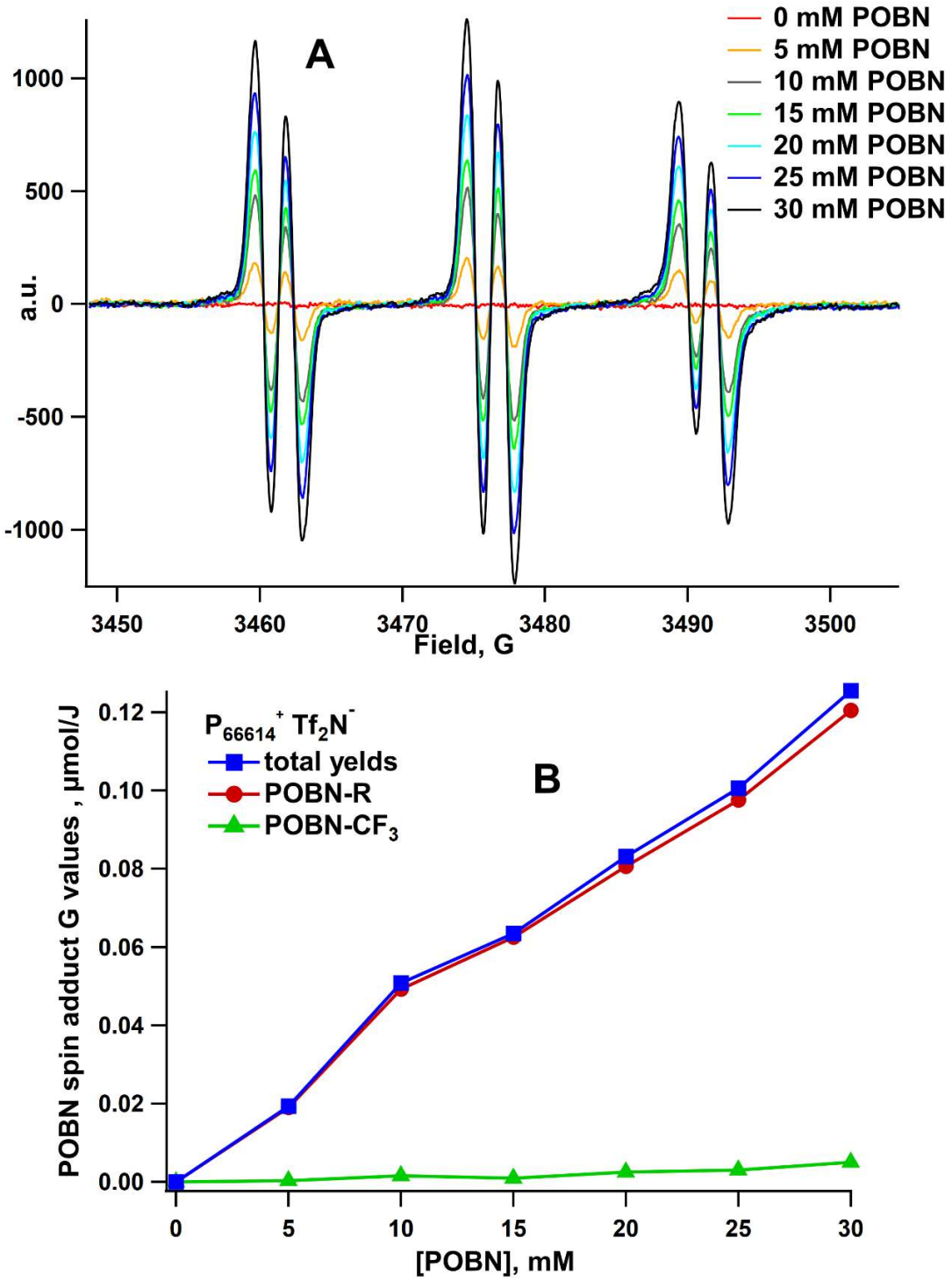

Figure S5. EPR spectra (A) and G values (B) of adducts observed in 1200Gy irradiated hmpy$^+$ Tf_2N^- at various POBN concentrations, diluted in CH_2Cl_2. The pattern changes with the POBN concentration.