

Application of [PVI-SO₃H]NO₃ as a novel polymeric nitrating agent with ionic tags in preparation of high-energetic materials

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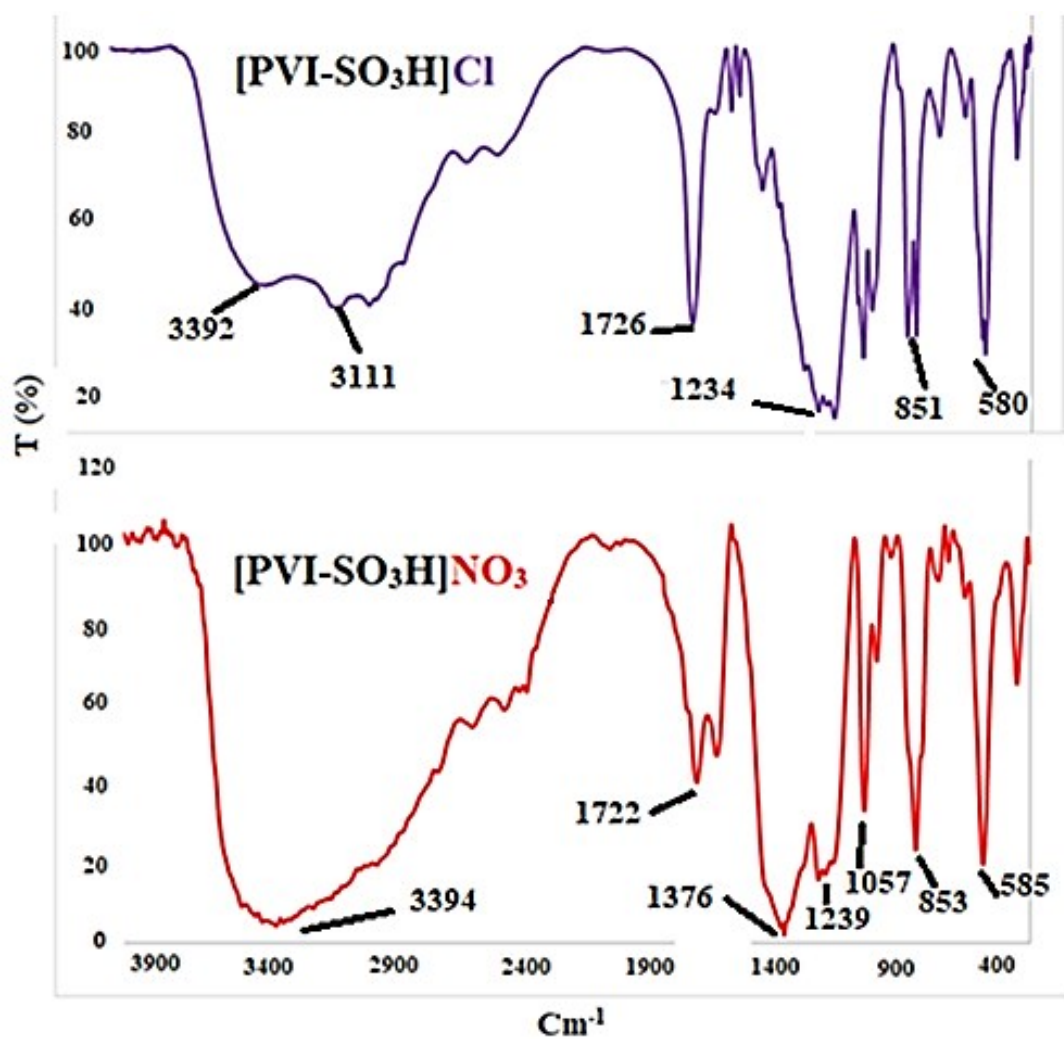
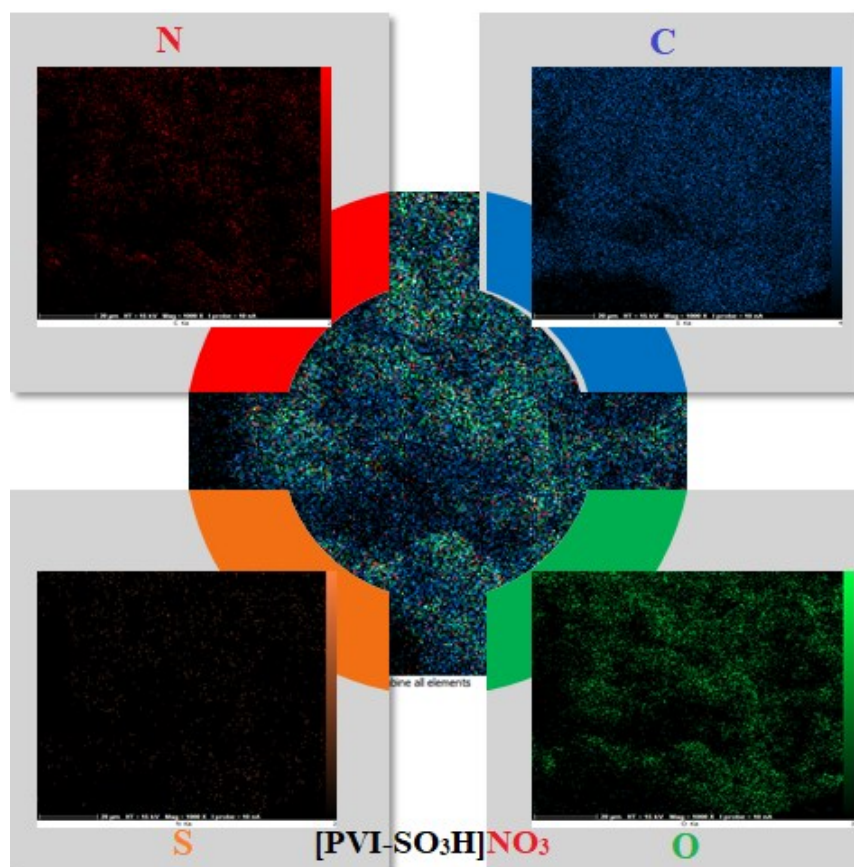
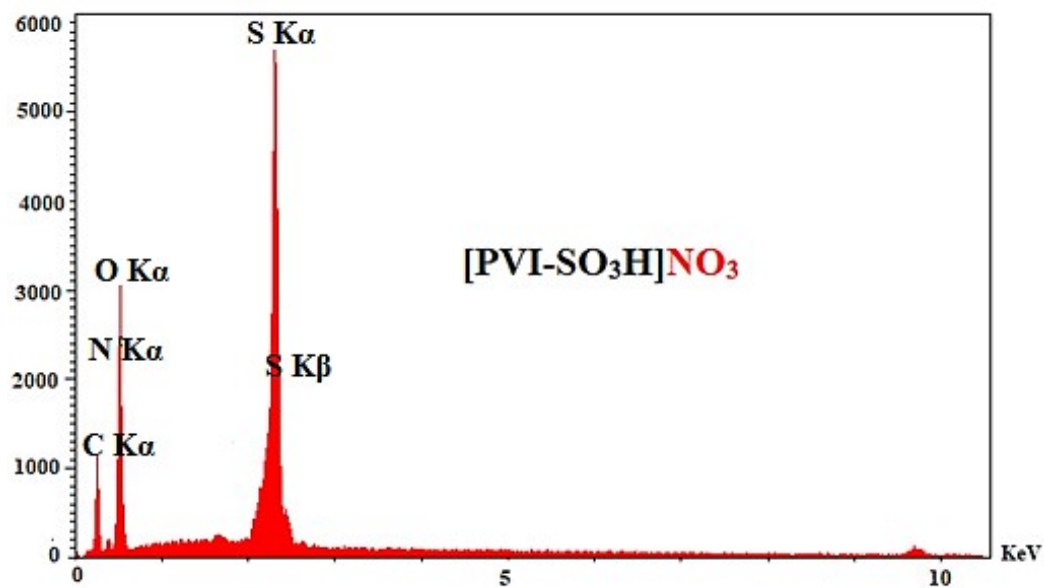


Figure S1: FT-IR spectrum of [PVI-SO₃H]NO₃ and [PVI-SO₃H]Cl



Figures S2: Elemental maps (EDX) of O (green); S (orange); C (blue) and N (red) for [PVI-SO₃H]NO₃. SEM-EDS analysis of [PVI-SO₃H]NO₃

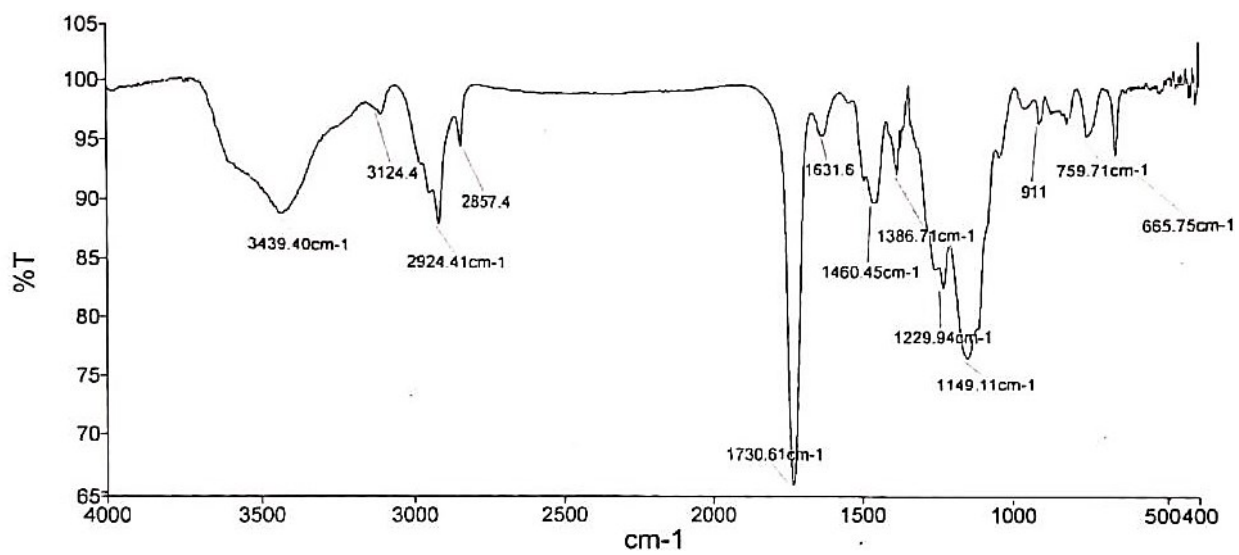
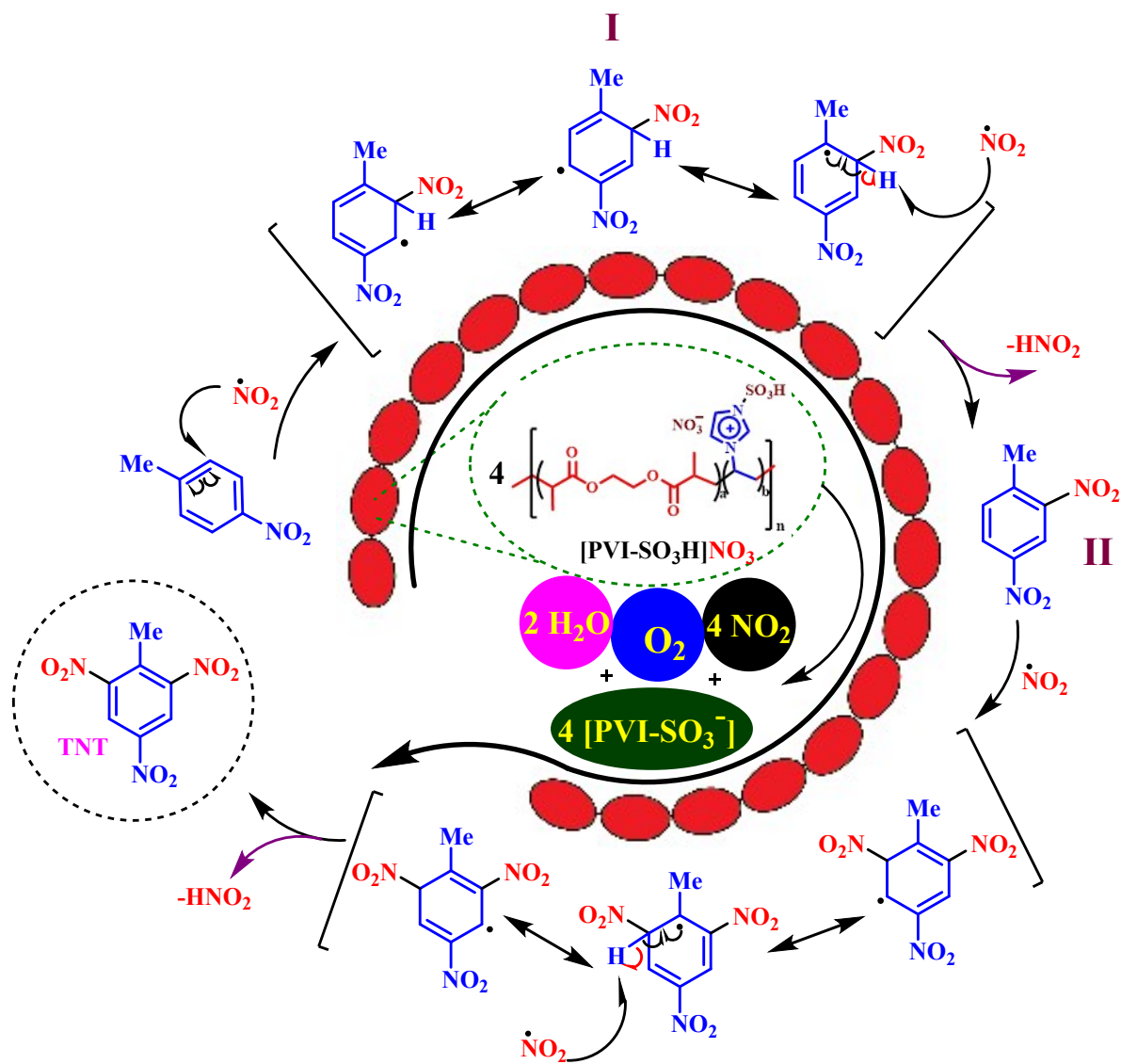
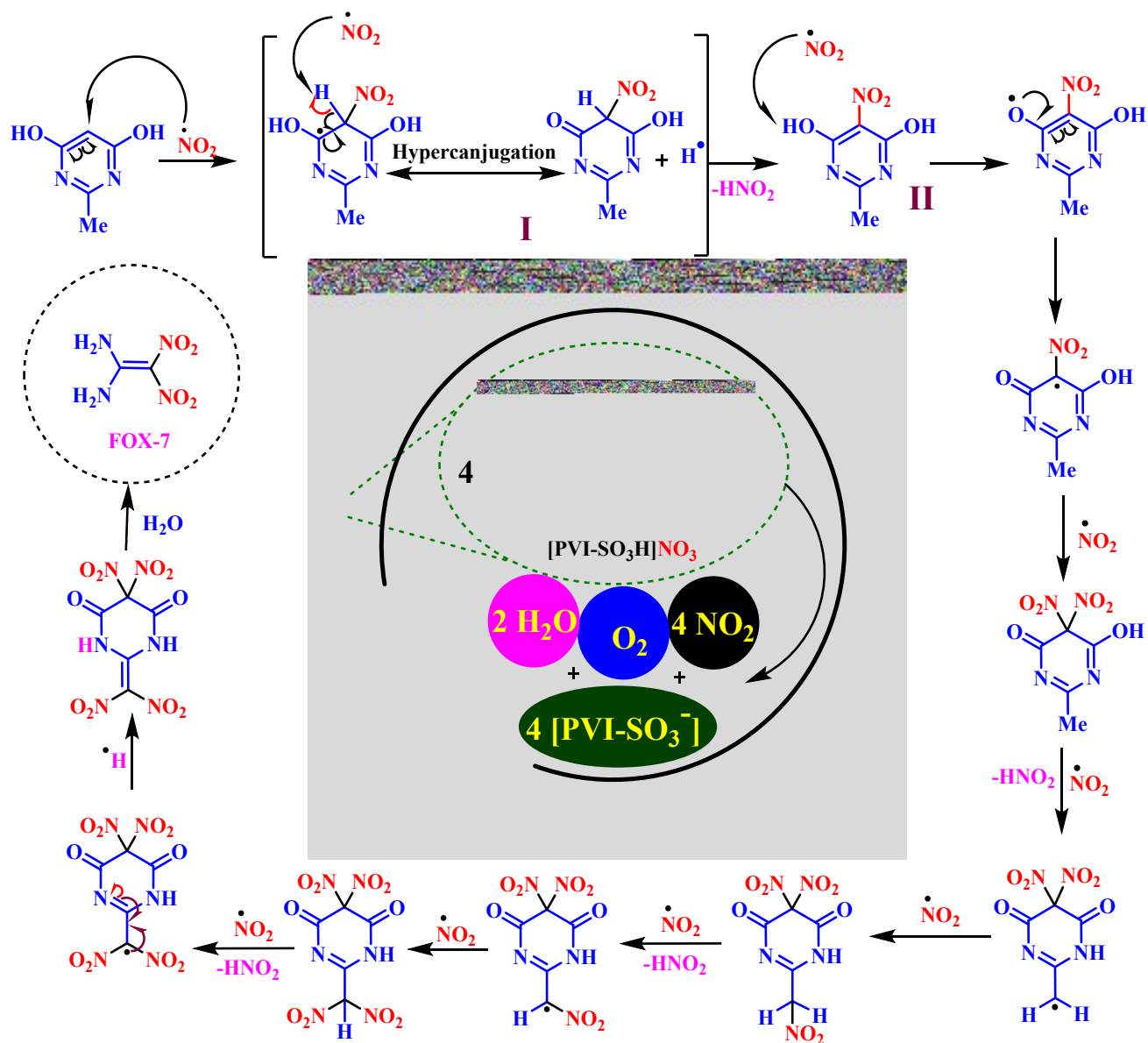


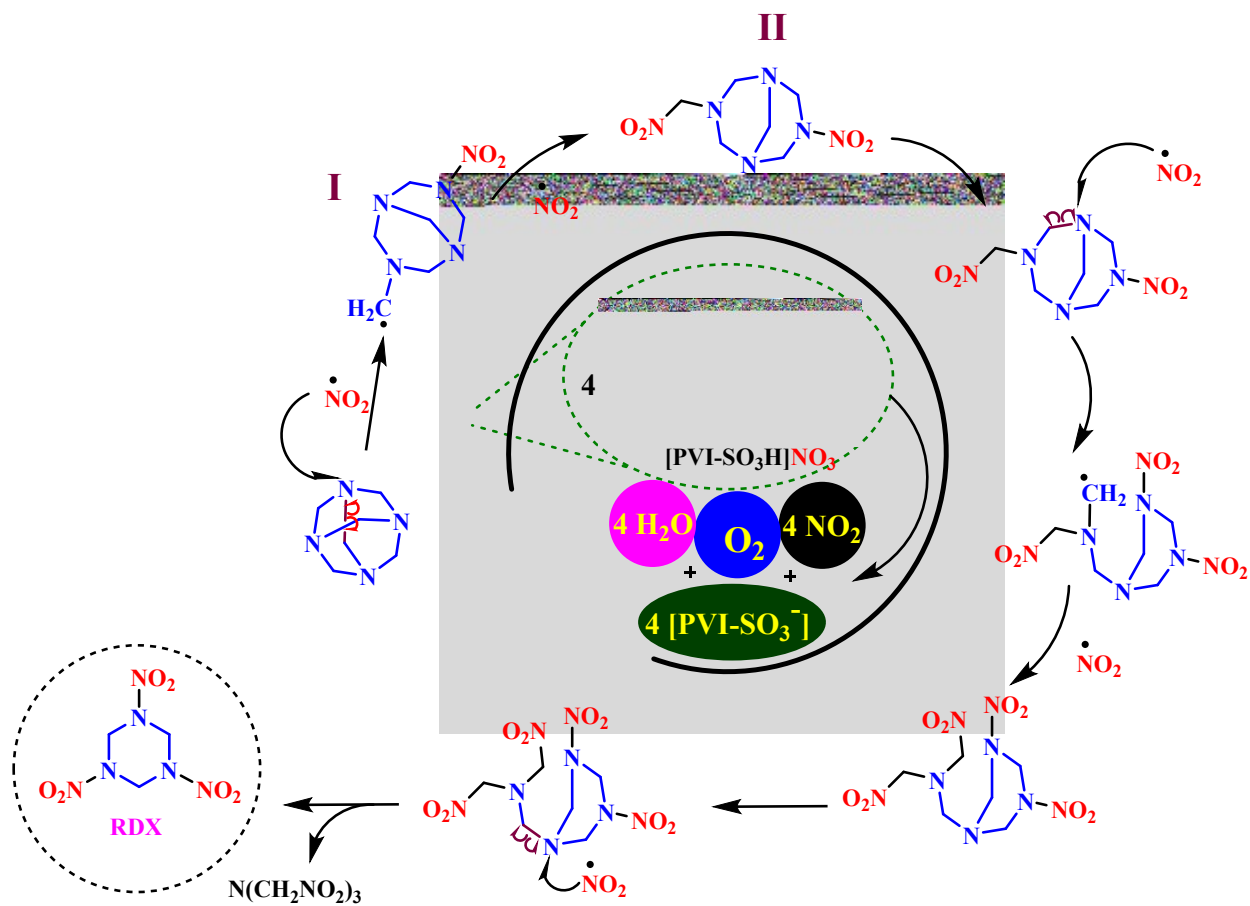
Figure S3: FT-IR spectrum recycled of [PVI-SO₃H]NO₃



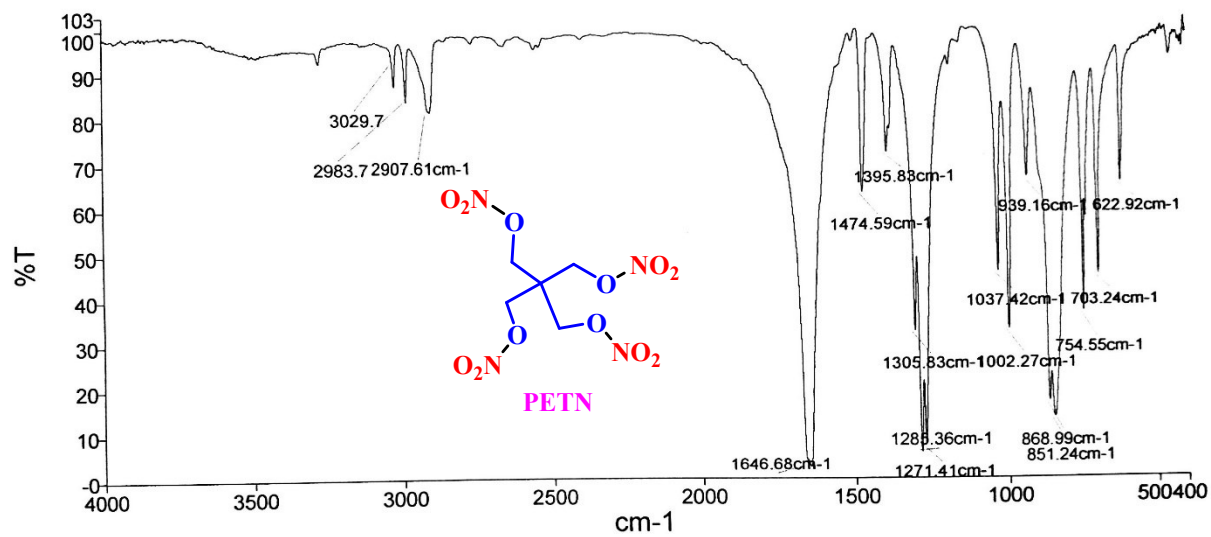
Scheme S1: A plausible mechanism for the preparation of TNT



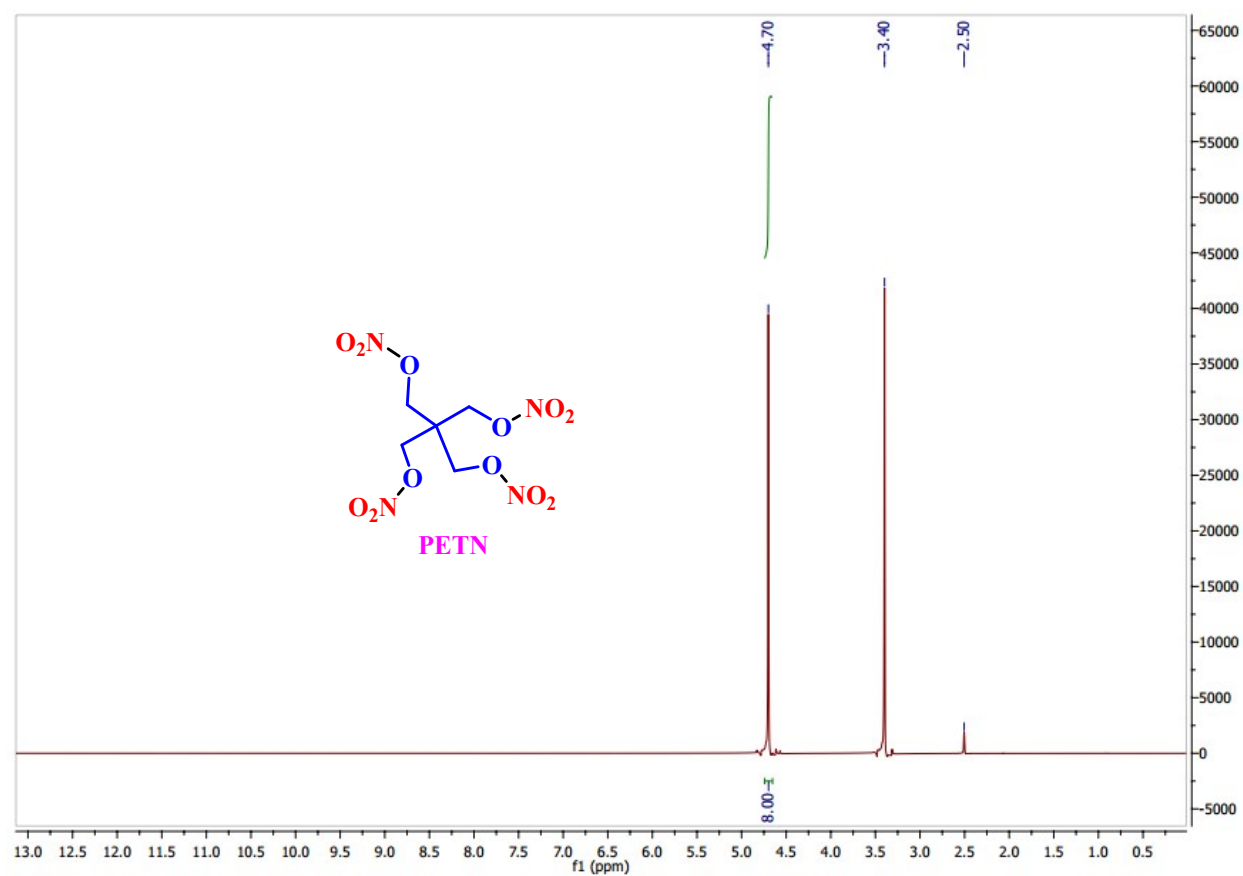
Scheme S2: A plausible mechanism for the preparation of FOX-7



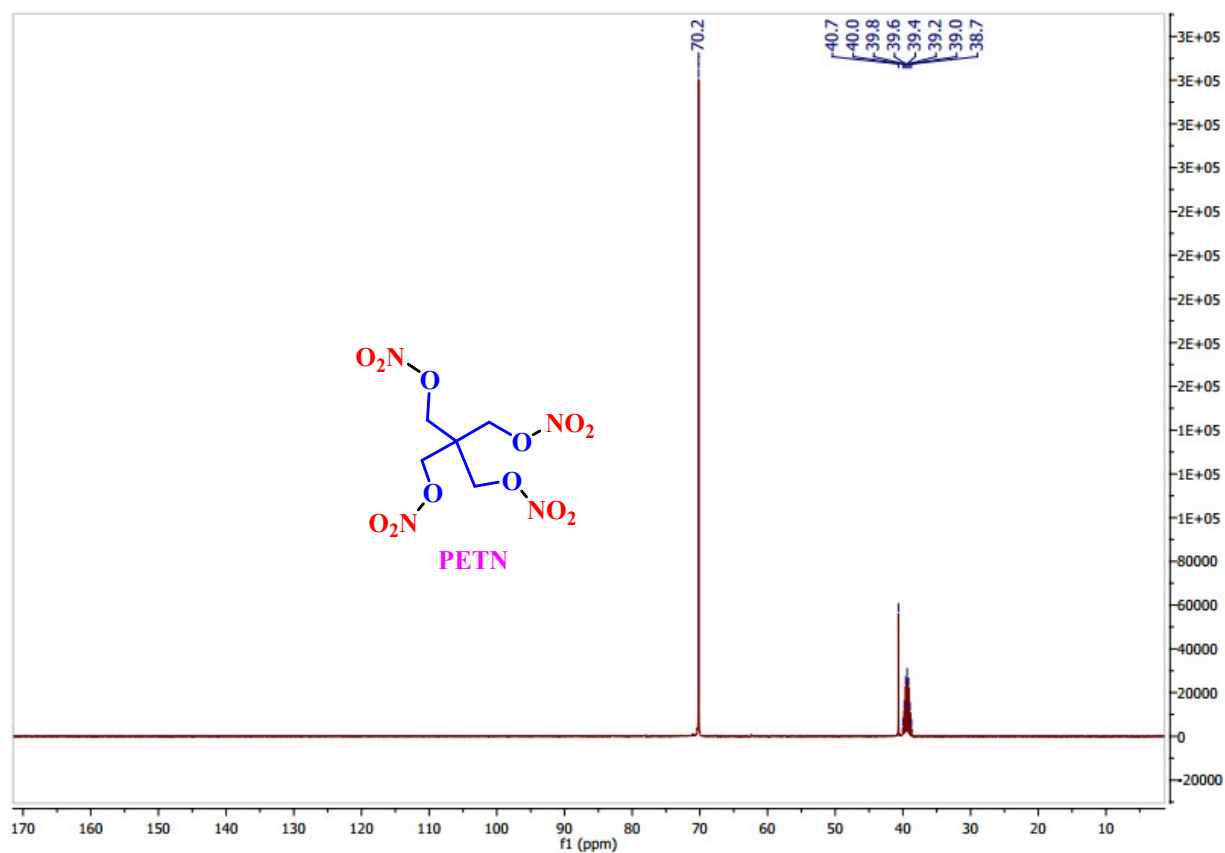
Scheme S3: A plausible mechanism for the preparation of RDX



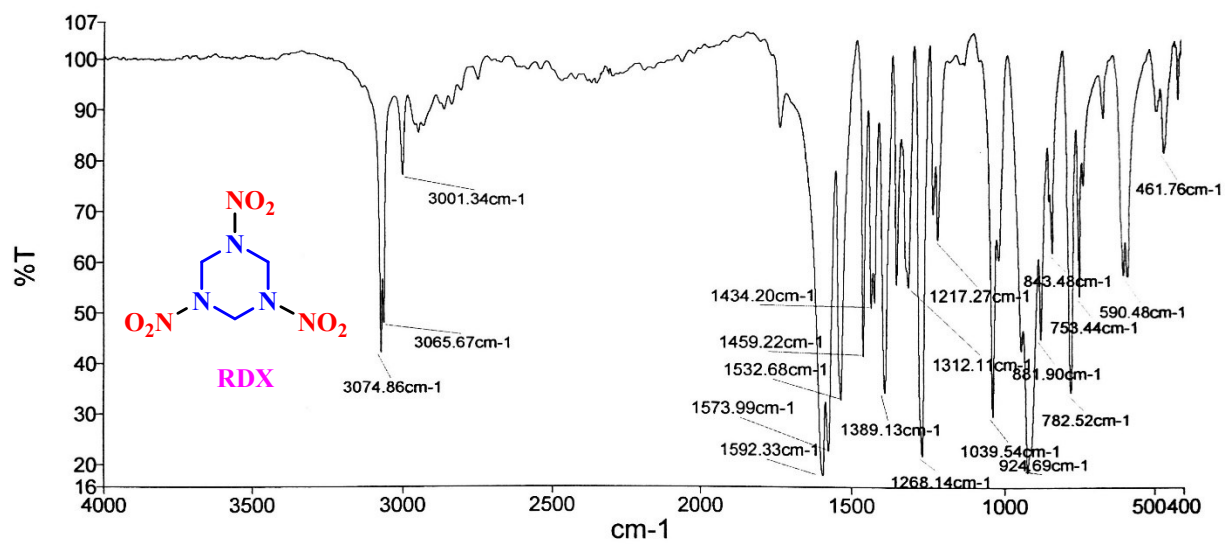
FT-IR Spectrum of 2,2-bis((nitrooxy)methyl)propane-1,3-diyl dinitrate



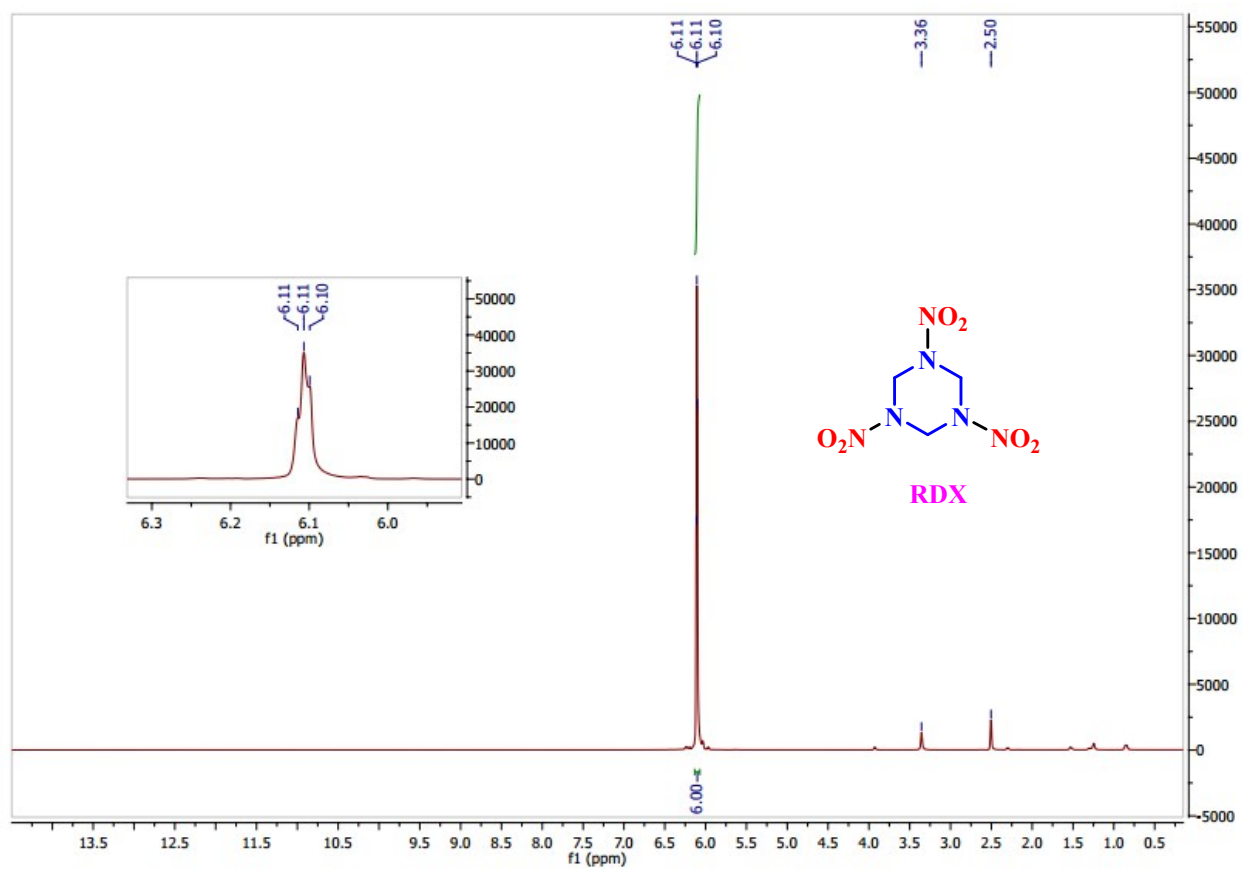
^1H -NMR Spectrum of 2,2-bis((nitrooxy)methyl)propane-1,3-diyl dinitrate



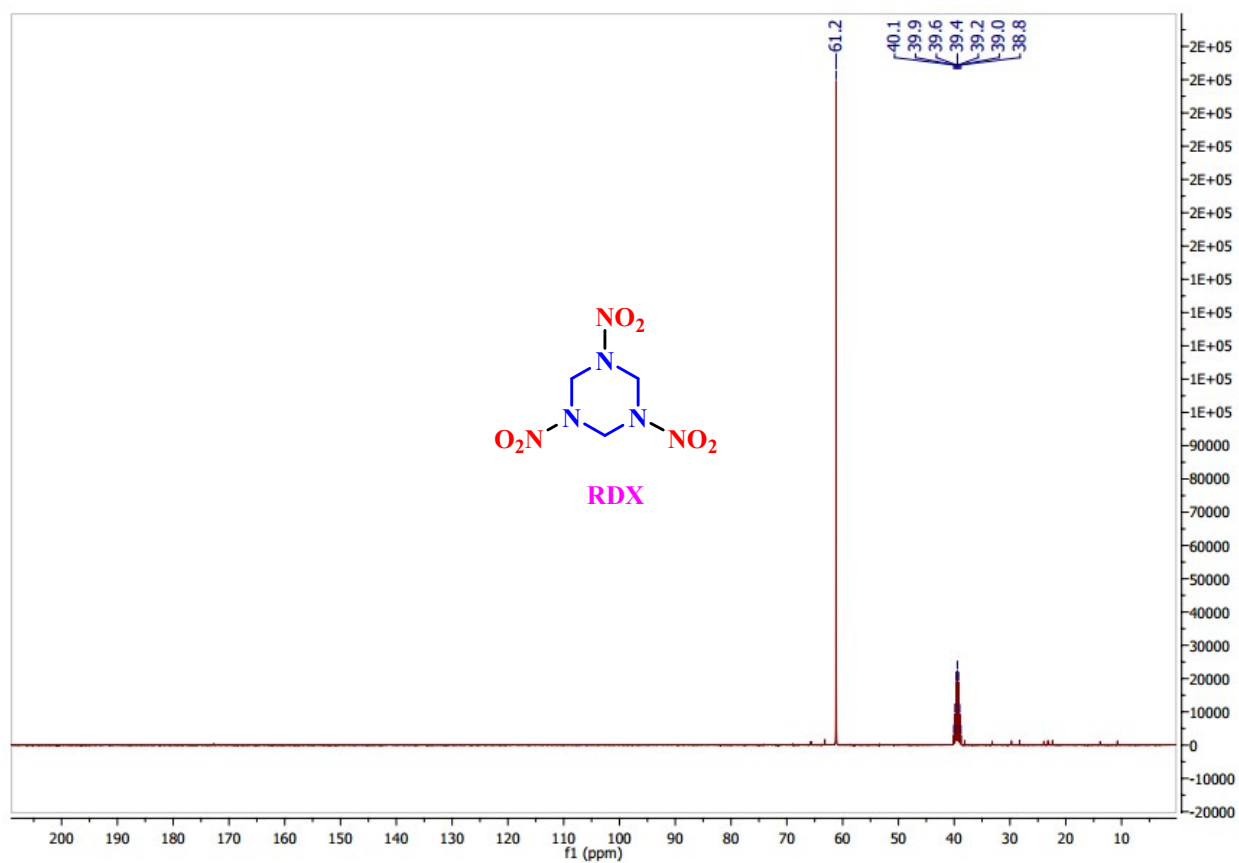
^{13}C -NMR Spectrum of 2,2-bis((nitrooxy)methyl)propane-1,3-diyl dinitrate



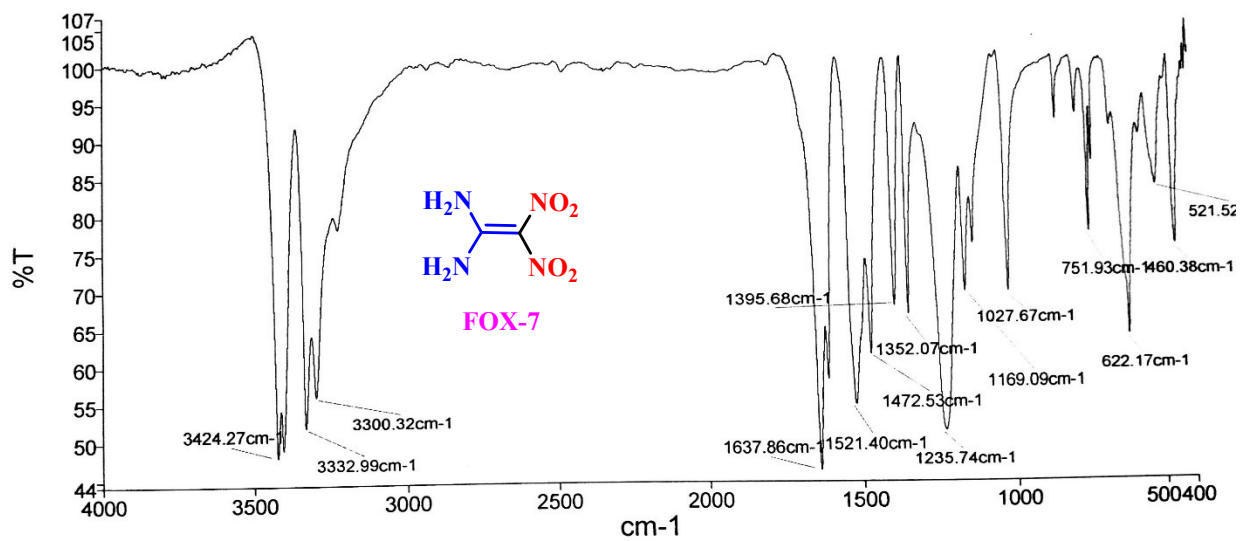
FT-IR Spectrum of 1,3,5-trinitro-1,3,5-triazinane



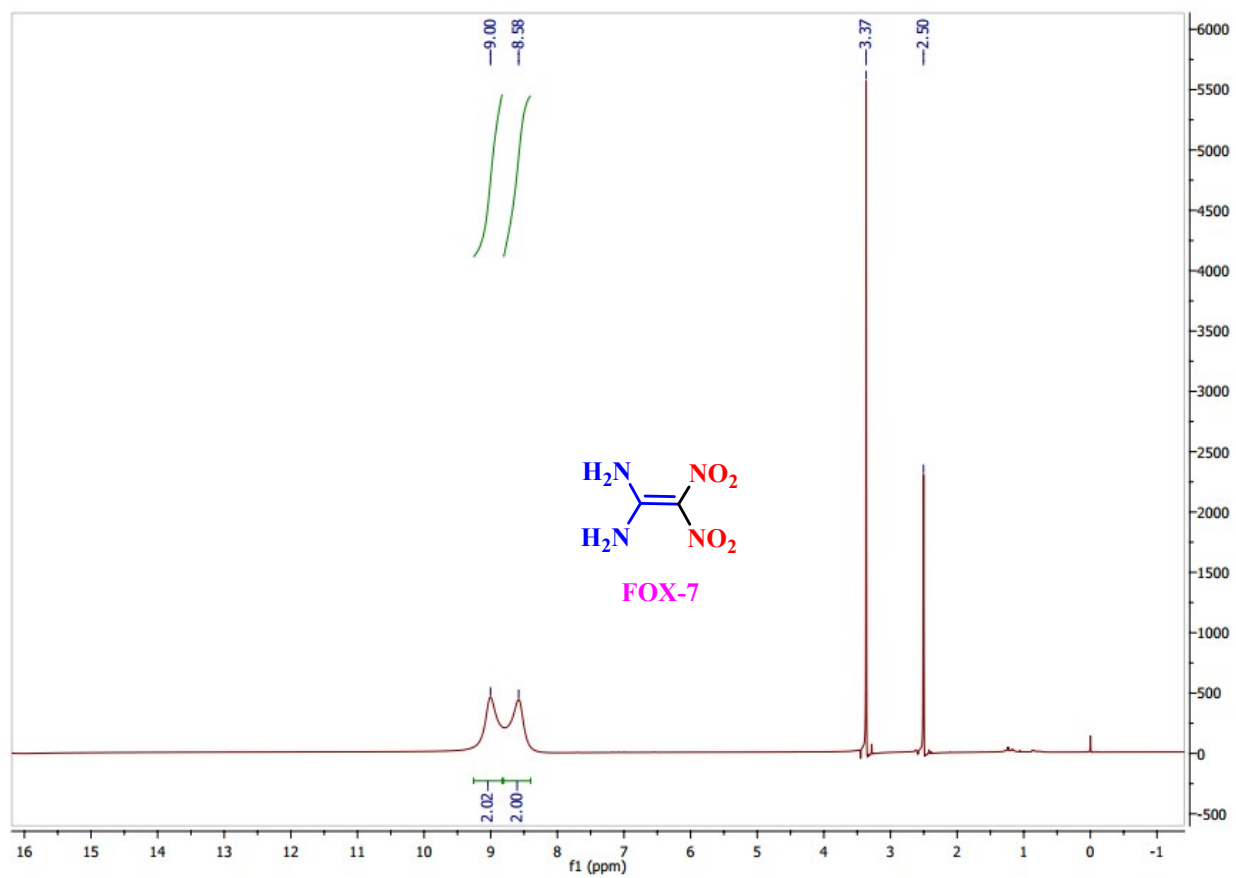
^1H -NMR Spectrum of 1,3,5-trinitro-1,3,5-triazinane



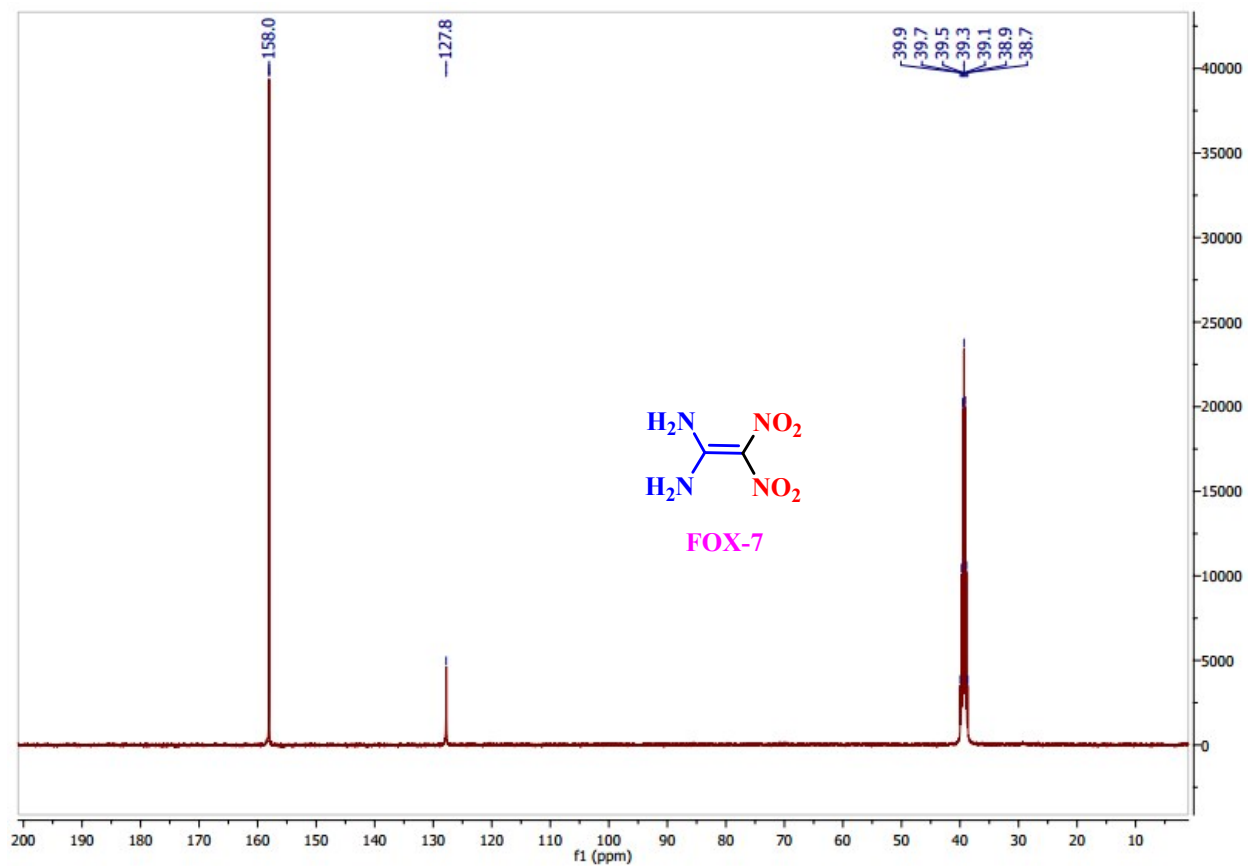
^{13}C -NMR Spectrum of 1,3,5-trinitro-1,3,5-triazinane



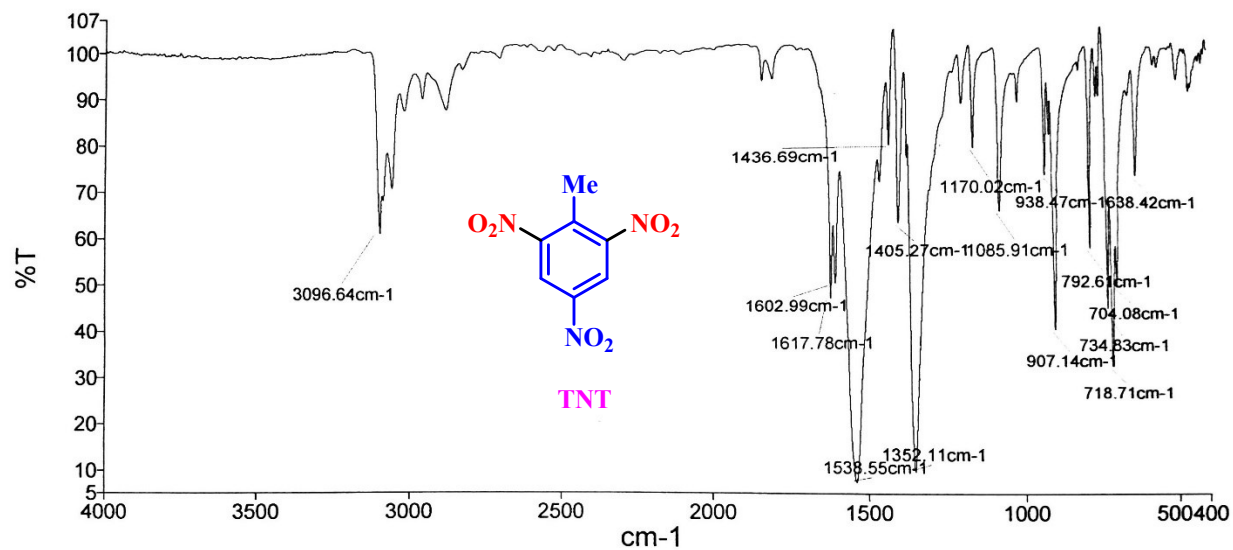
FT-IR Spectrum of 2,2-dinitroethene-1,1-diamine



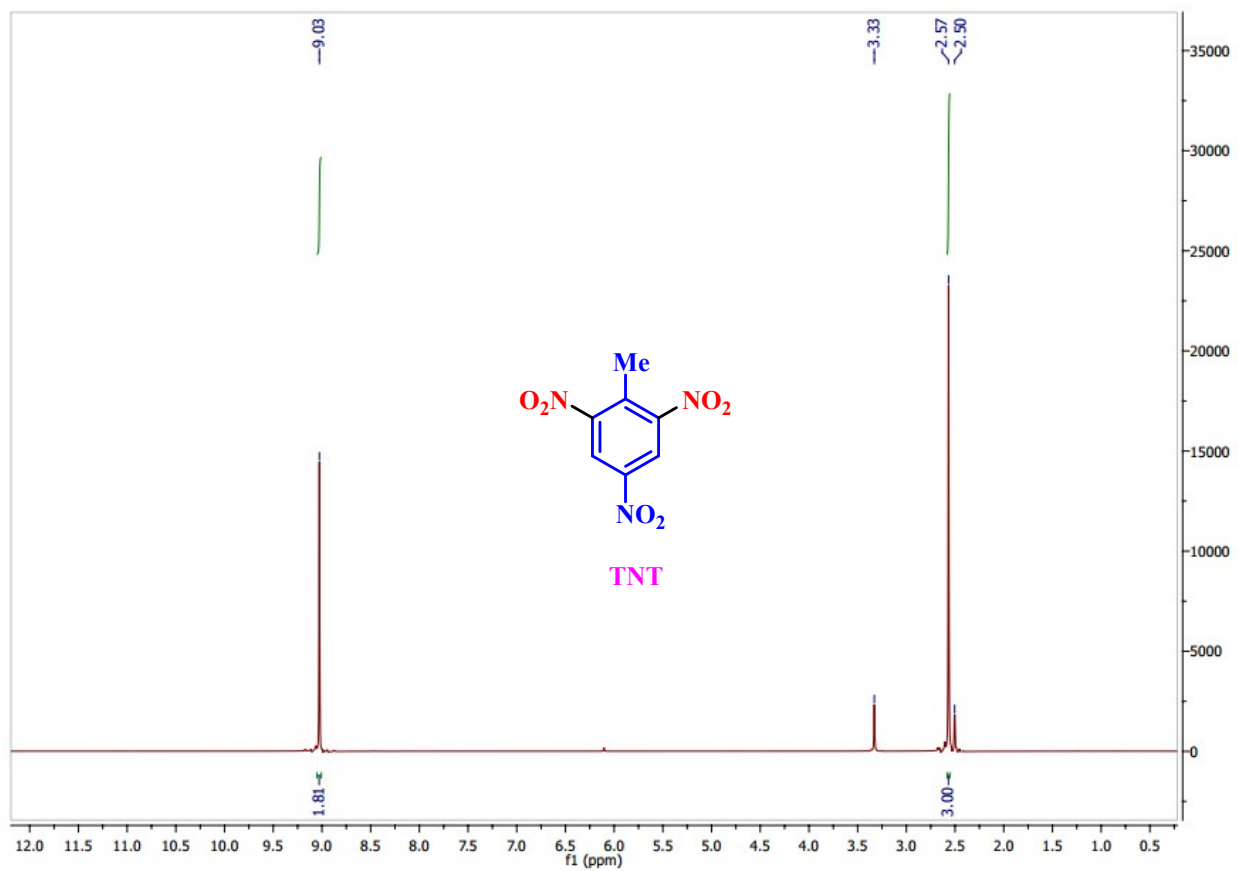
^1H -NMR Spectrum of 2,2-dinitroethene-1,1-diamine



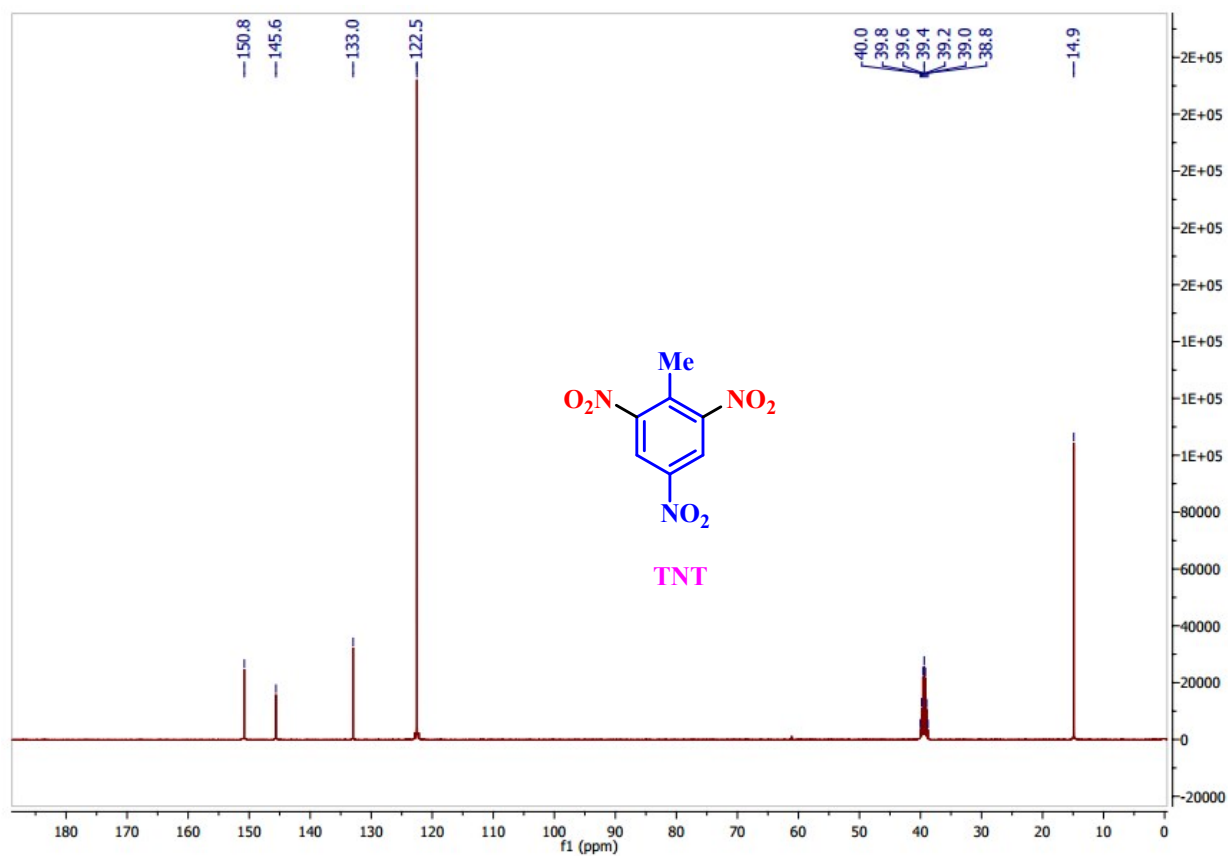
^{13}C -NMR Spectrum of 2,2-dinitroethene-1,1-diamine



FT-IR Spectrum of 2-methyl-1,3,5-trinitrobenzene



^1H -NMR Spectrum of 2-methyl-1,3,5-trinitrobenzene



^{13}C -NMR Spectrum of 2-methyl-1,3,5-trinitrobenzene