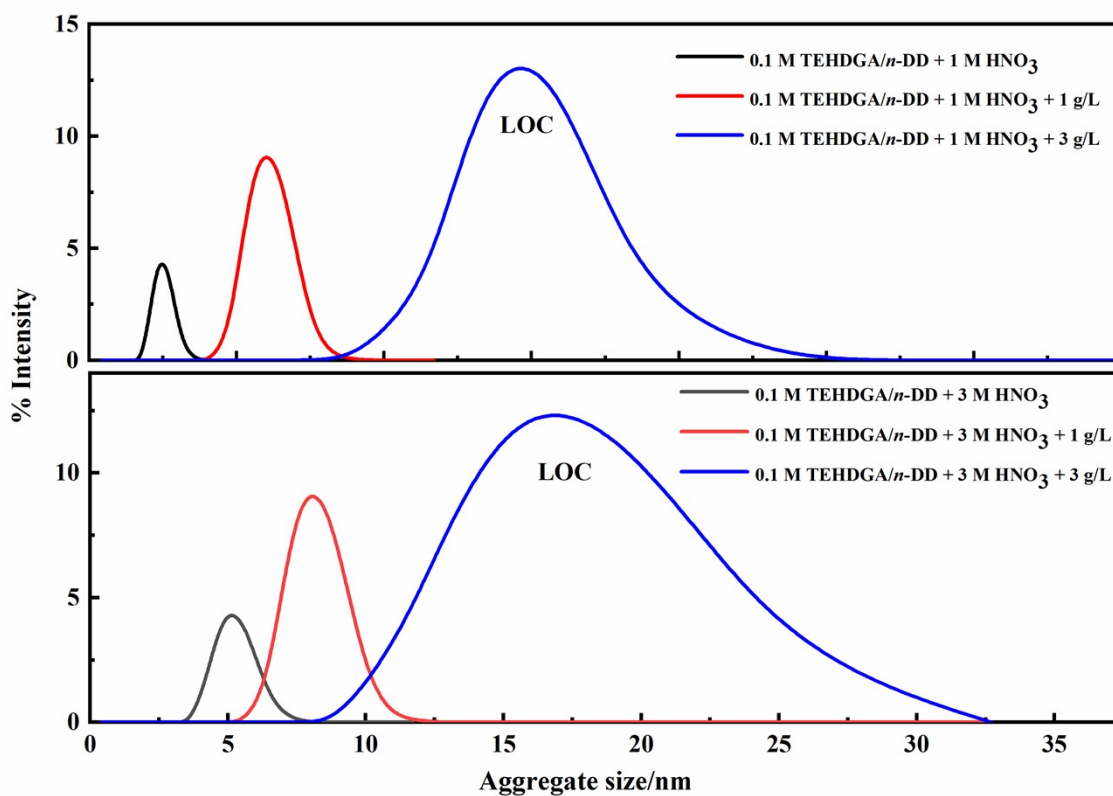


## The fate of organic phase beyond third phase formation

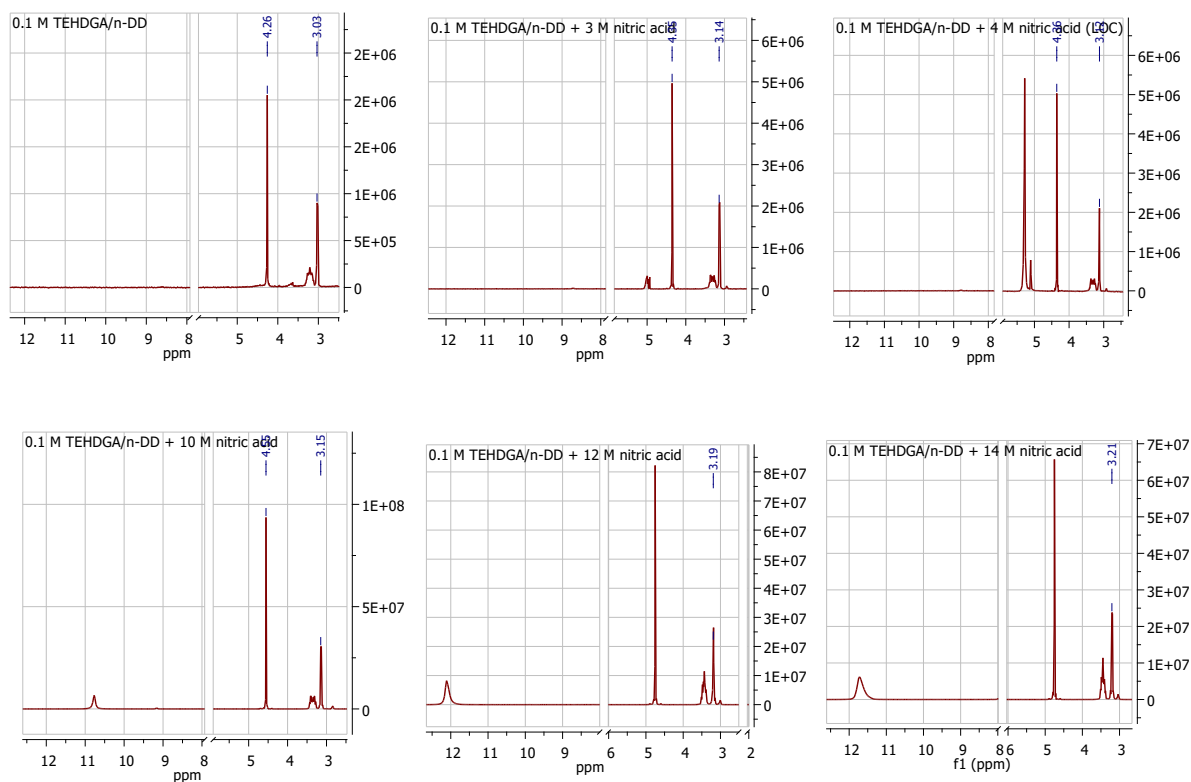
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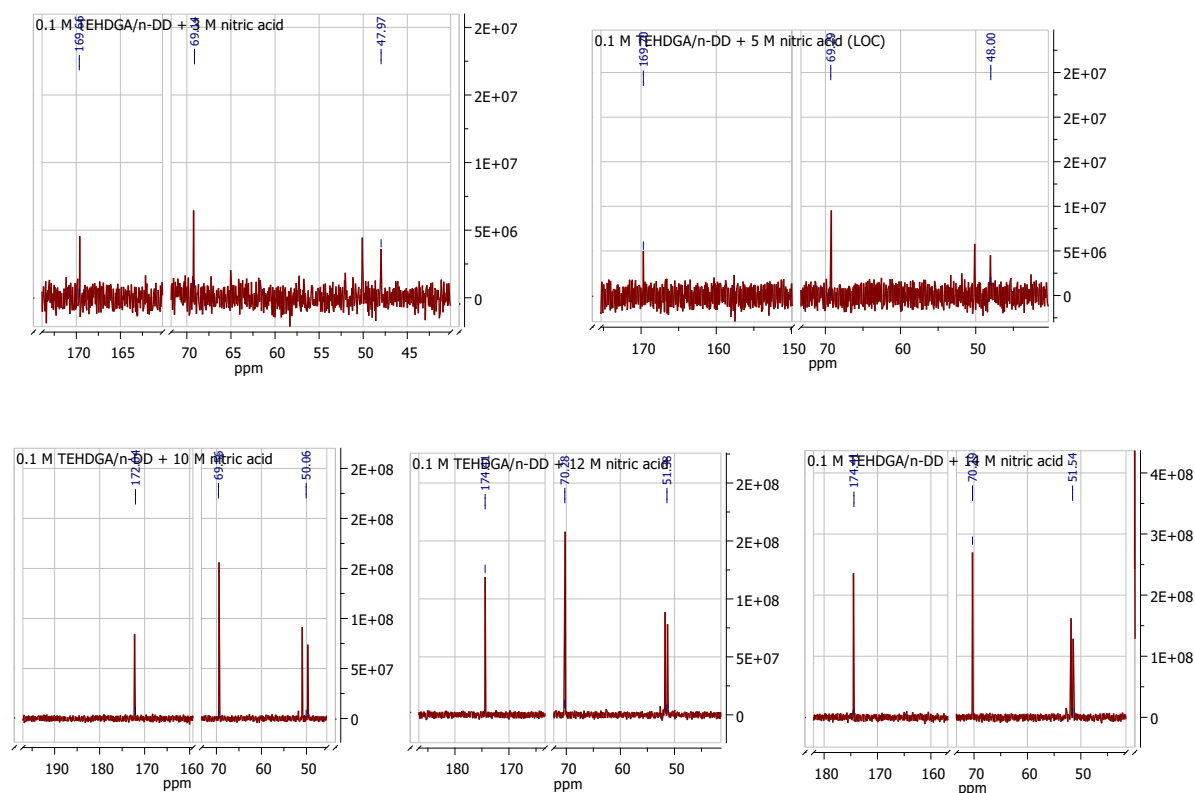
<sup>2</sup>Homi Bhabha National Institute, Anushakthi Nagar, Mumbai 400094, India.



**Figure 1S.** The aggregate size distribution of the organic phase recorded after contacting the 0.1 M TEHDGA/*n*-DD with nitric acid containing Nd(III) metal ion.



**Figure 2S**  $^1\text{H}$ NMR spectra of TEHDGA recorded before and after third phase formation. The organic phase (0.1 M TEHDGA/*n*-DD) was contacted with nitric acid of different concentrations ranging from 1 M - 14 M before recording the spectrum.



**Figure 3S**  $^{13}\text{C}$  NMR spectra of TEHDGA recorded before and after third phase formation. The organic phase (0.1 M TEHDGA/*n*-DD) was contacted with nitric acid of different concentrations ranging from 1 M - 14 M before recording the spectrum.