Electronic Supplementary Material (ESI) for Sensors & Diagnostics.

"Design and Development of a Fluorometric and Colorimetric sensor for Toxic cyanide detection by Pyridinium scaffolds: Live cell imaging and real samples analysis"

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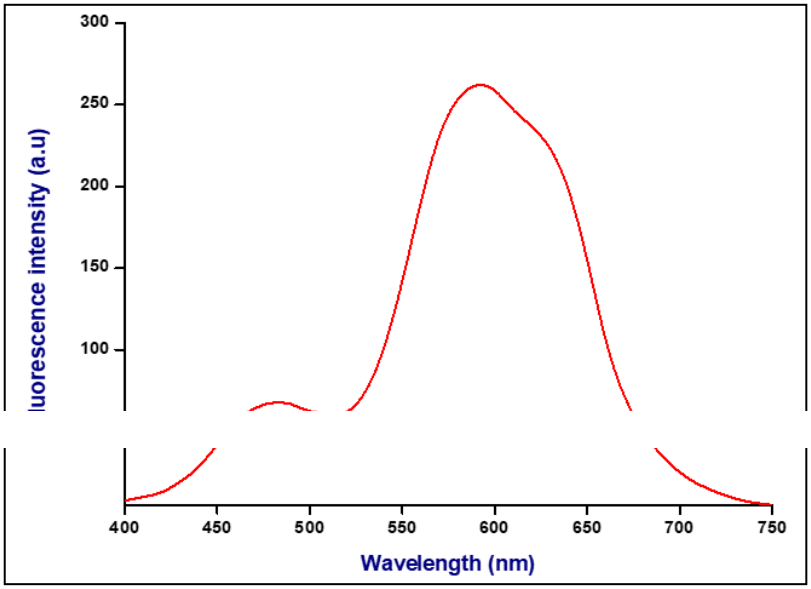

Figure S1: Emission spectra of probe Me-INDP (1×10^{-5} M) in ACN/ 10% H_2O

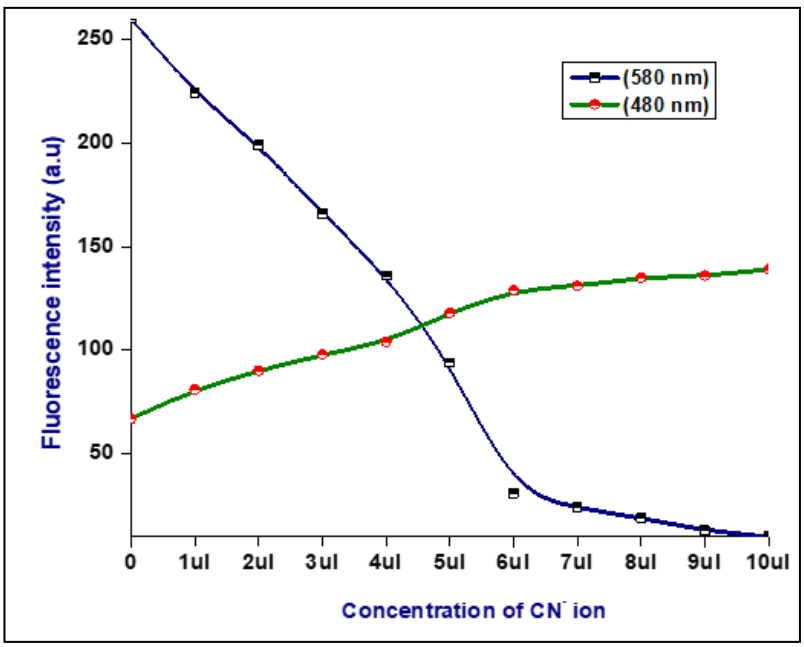

Figure S2: Sigmoidal plot of compound Me-INDP with different concentration of CN^-.

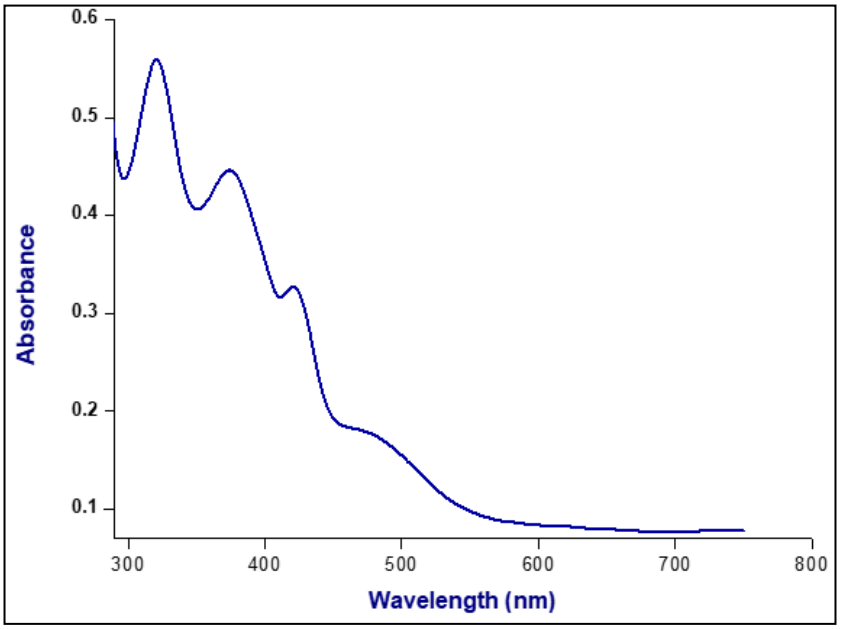

Figure S3: UV-Vis spectra of probe Me-INDP (1×10^{-5} M) in ACN/ 10% H_2O

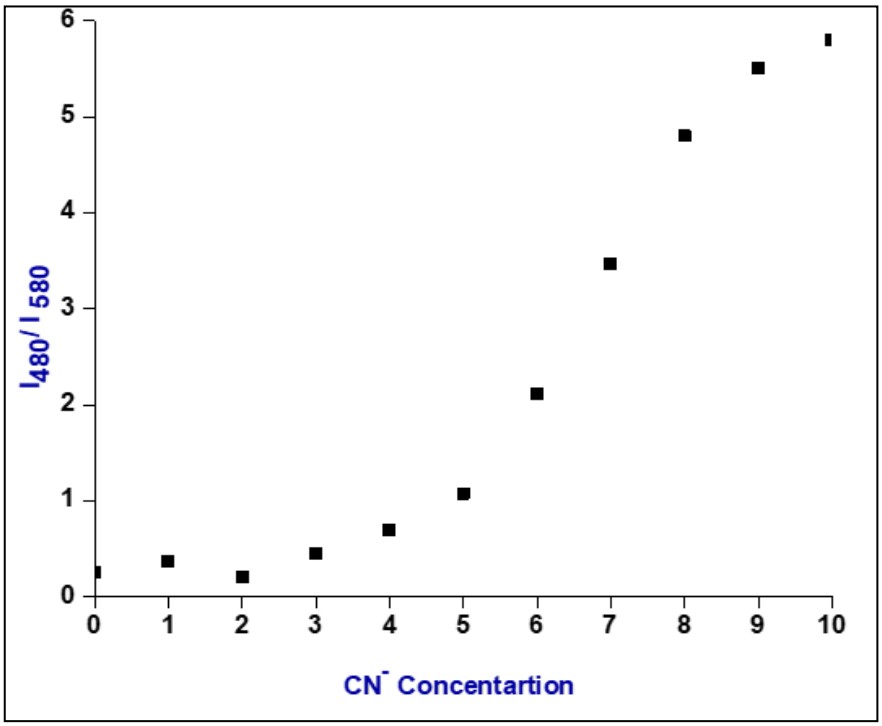

Figure S4: Changes in emission spectra of probe Me-INDP intensity ratio I_{480}/I_{580} with addition of various CN^- concentration

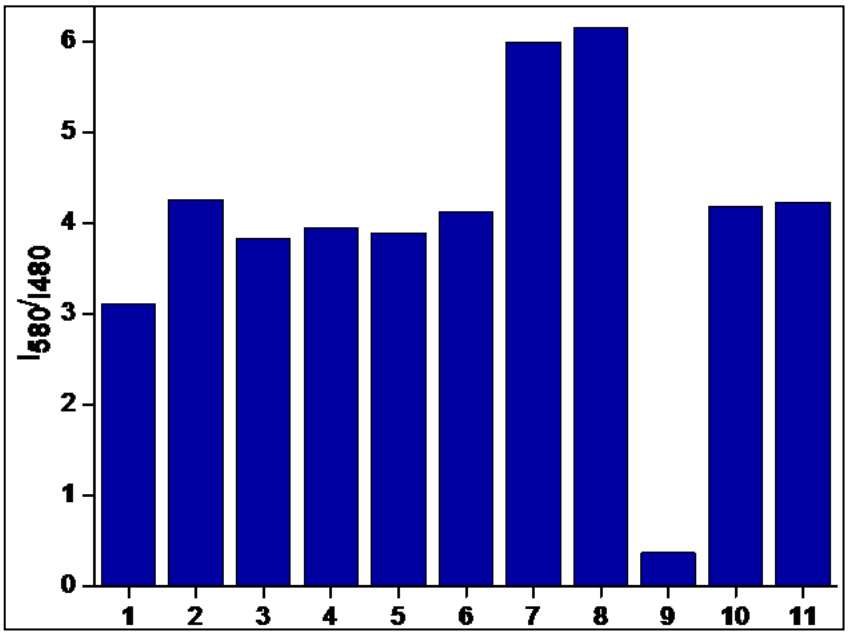

Figure S5: Fluorescence emission changes ratio I_{580}/ I_{480} of probe Me-INDP (1×10^{-5} M) at various anions (10µl) in ACN/H_2O. (1. F^-, 2. Cl^-, 3. SCN^-, 4. PO_4^{3-} 5. SO_4^{2-} 6. Br^-, 7. NO_2^- 8. AcO^-, 9. CN^-, 10. HCO_3^-, 11. I^-).

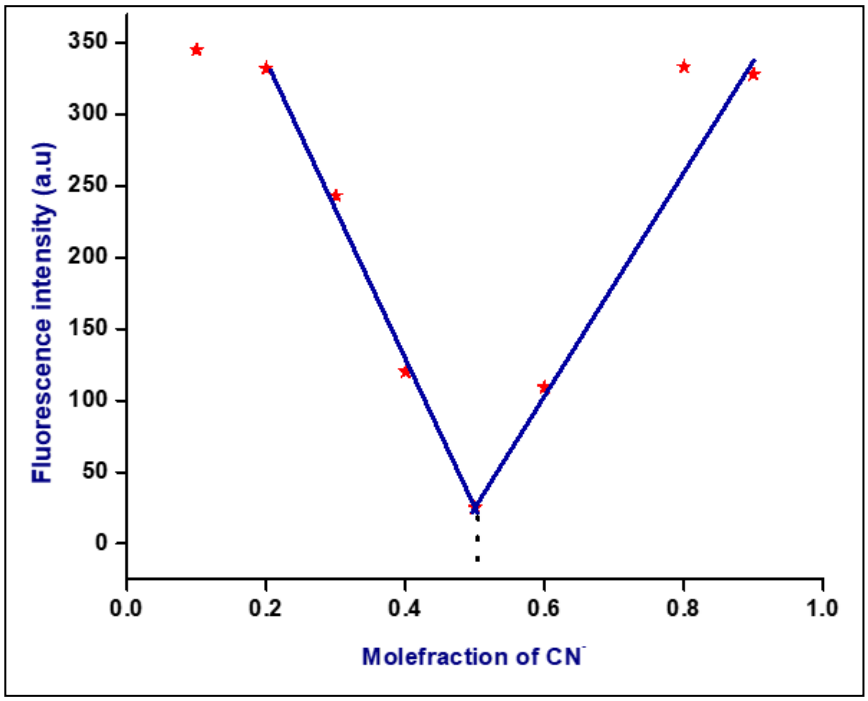

Figure S6: Job's plot

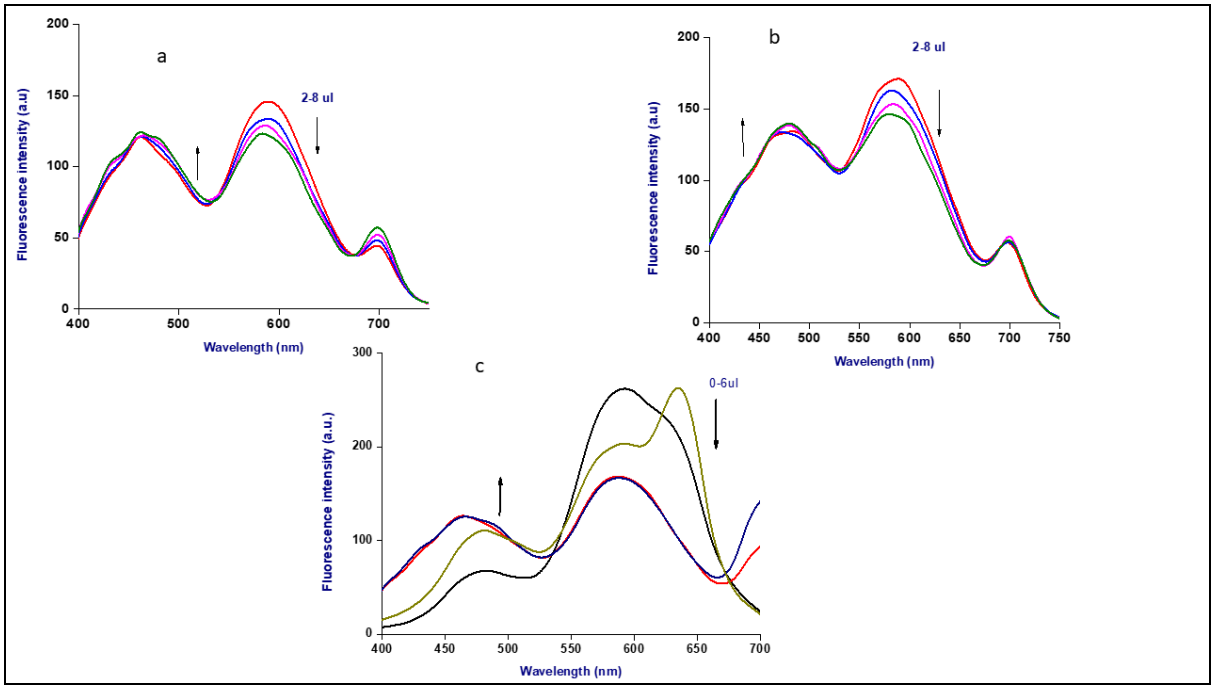

Figure S7: Emission spectra of probe Me-INDP with addition of various concentration real water samples (a) river water (b) tab water (c) sea water.

Sample	**CN^- spiked**	**Recovery**
Cassava flour	-	89%
Almond	-	98%
Sprouted potatoes	-	96%
River water	6.0×10^{-3}	101.78%
Tap water	2.0×10^{-3}	96%
Seawater	4.0×10^{-3}	90%

Table S1: Determination of CN^- concentration in natural water and food samples.

Binding Constant calculation:

Formula used $F_0/F=1+KSV[Q]$

F_0 and F are fluorescence obtained intensities before and after addition of analyte. [Q] = concentration of quencher. K SV is Stern -Volmer quenching constant.

Slope value =31.54, the calculated K SV = $3.15\times10^{7}\ M^{-1}$.

Limit of detection calculation:

Formula used = $3\sigma/S$

σ is standard deviation, S is slope value. The calculated LOD value is 1.2×10^{-9} M.

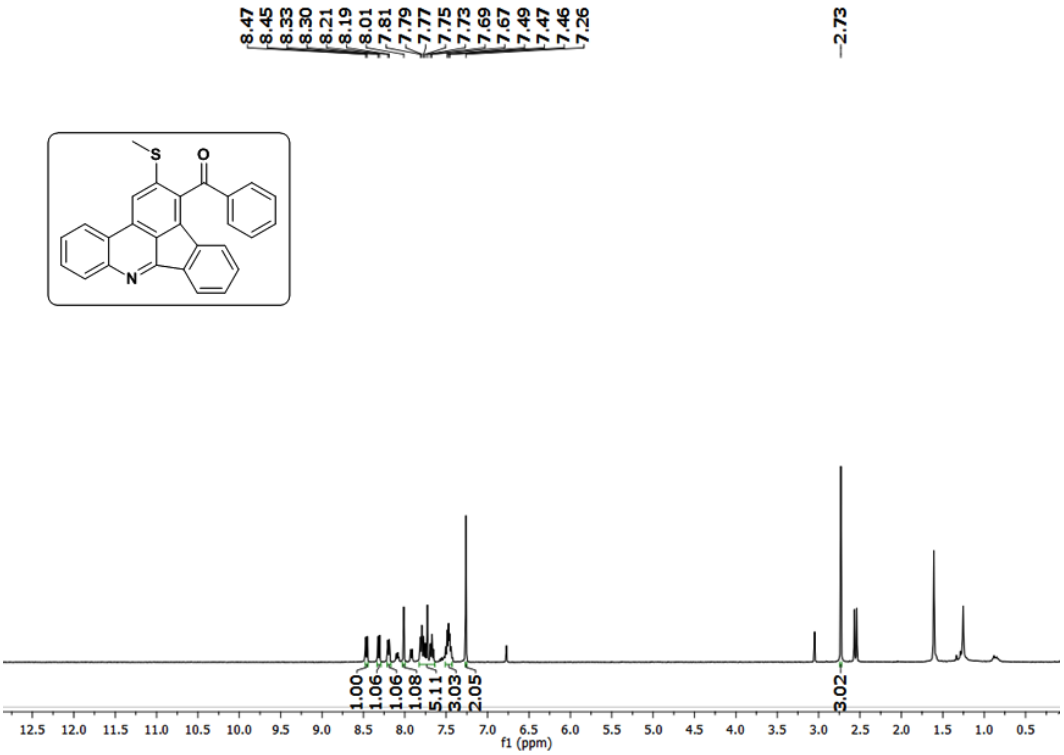

Figure S8: ^{1}H NMR spectrum of compound INDP

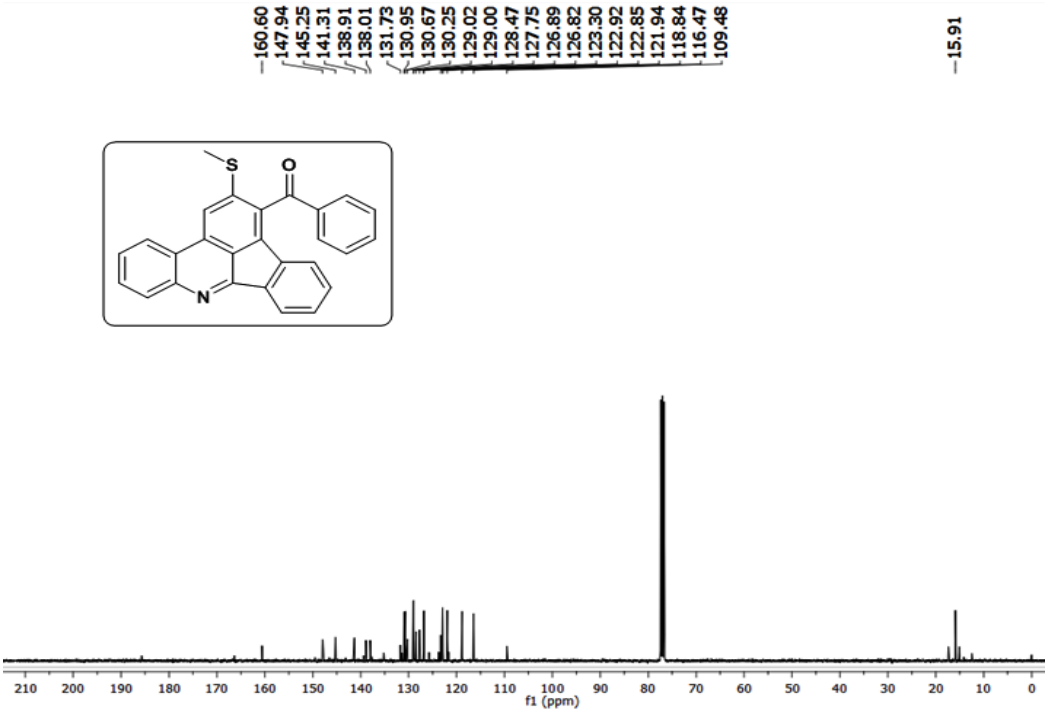

Figure S9: ^{13}C NMR spectrum of compound INDP

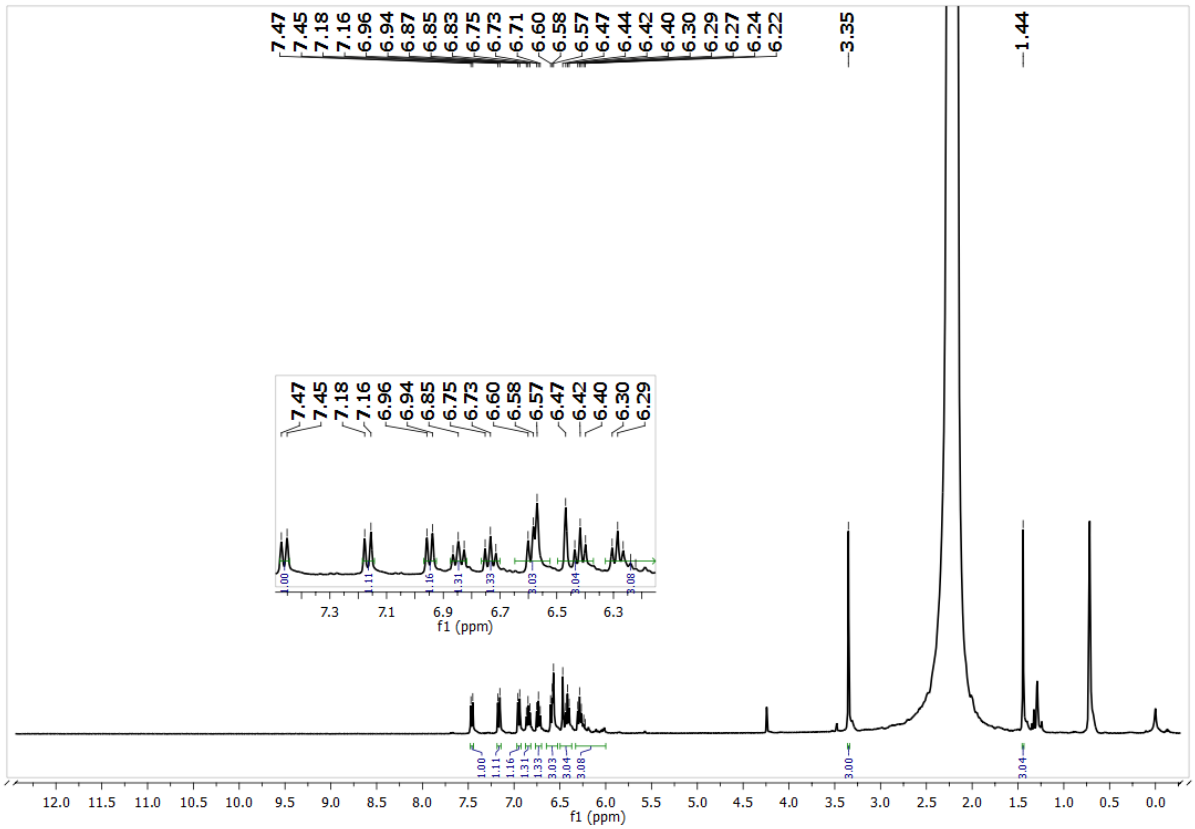

Figure S10: ^{1}H NMR spectrum of compound Me-INDP

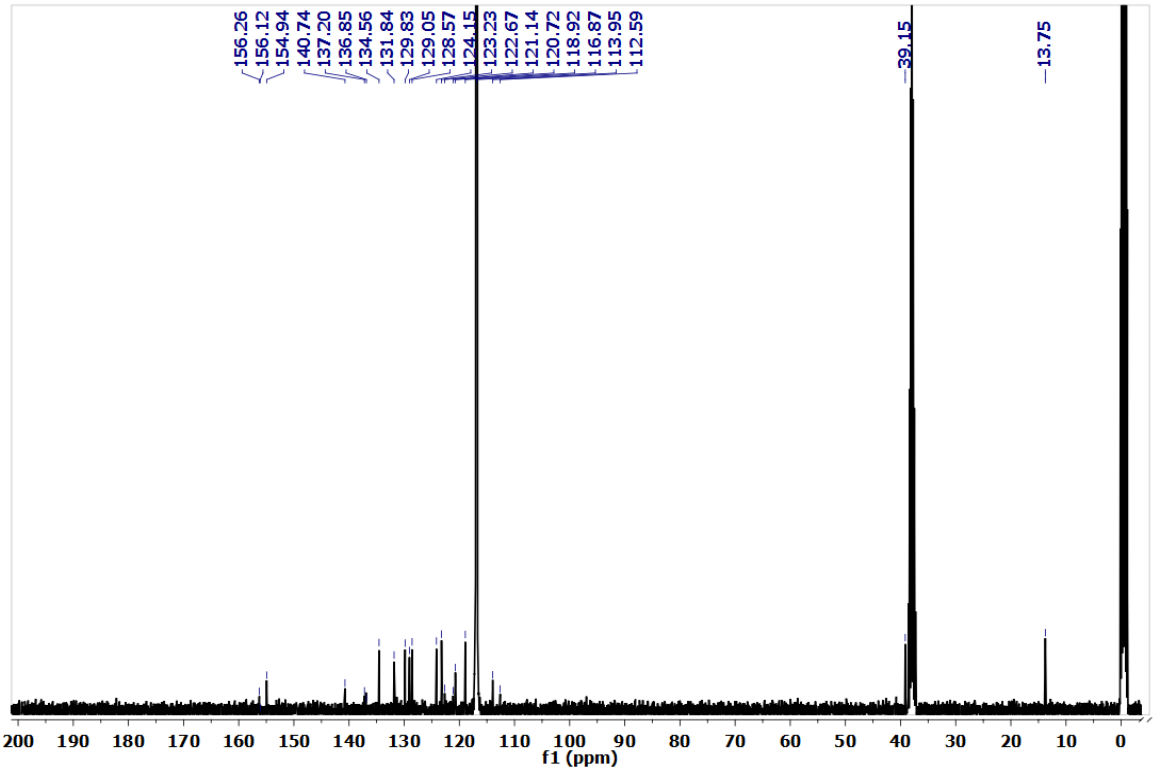

Figure S11: ^{13}C NMR spectrum of compound Me-INDP

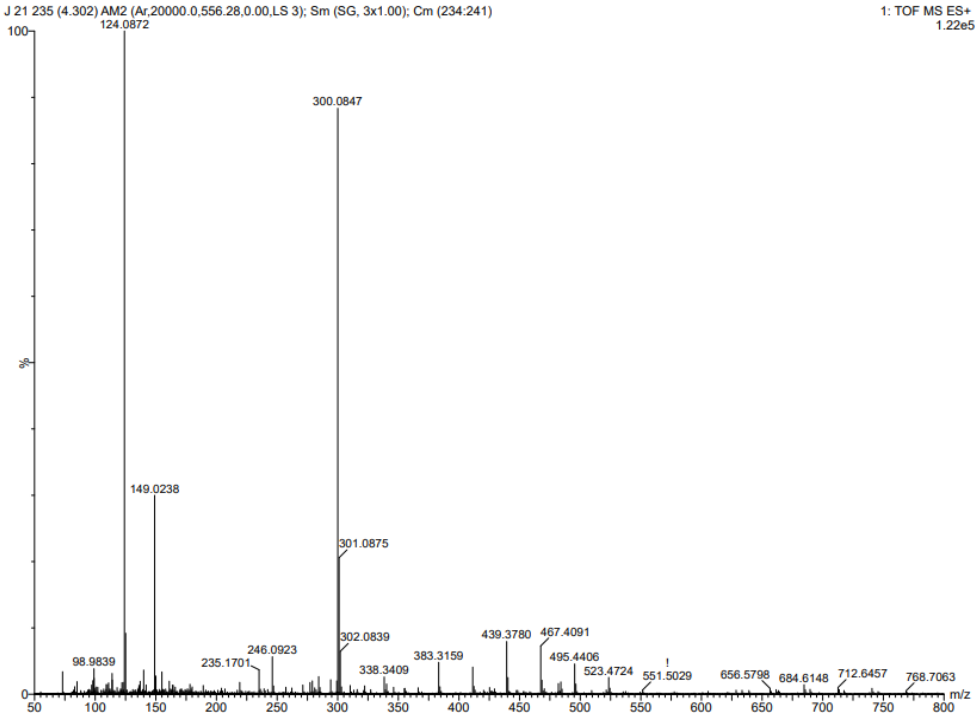

Figure S12: HRMS spectrum of compound INDP

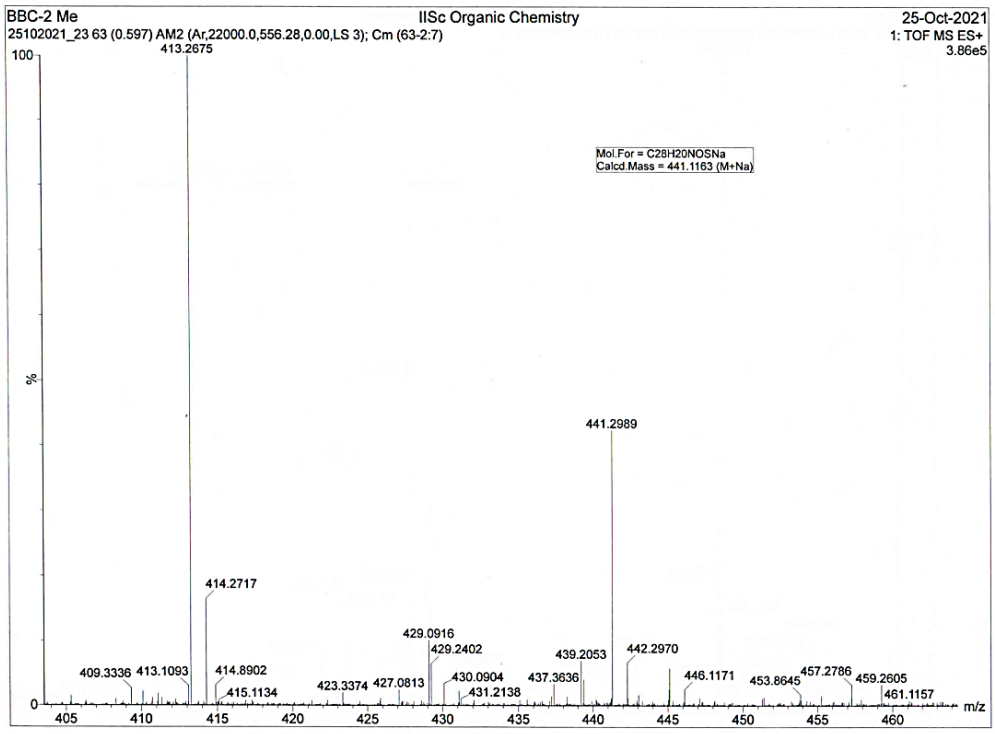

Figure S13: HRMS spectrum of compound Me-INDP

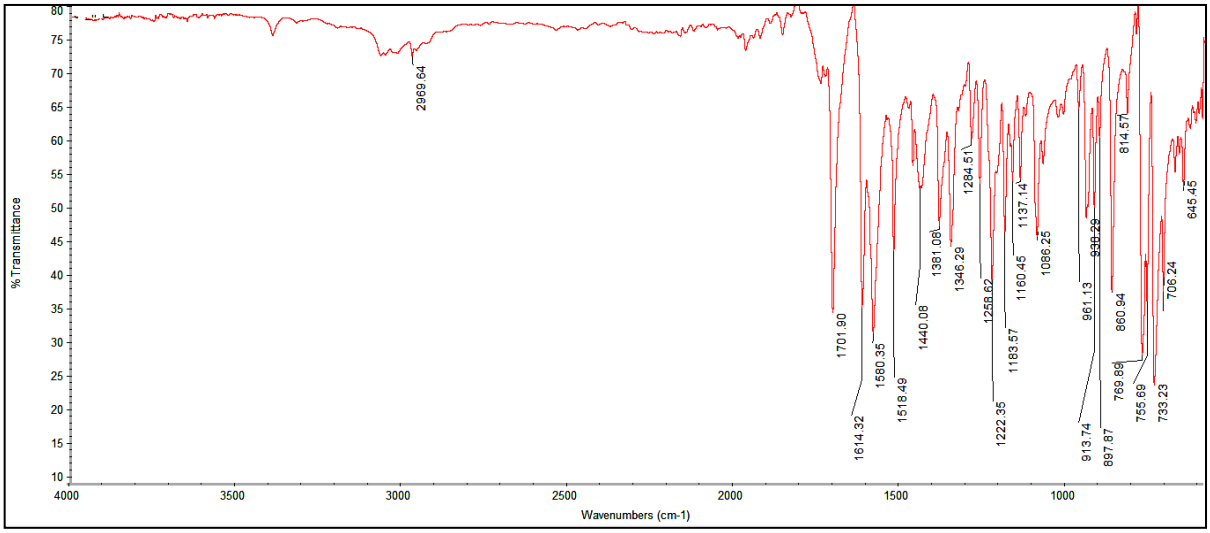

Figure S14: IR spectrum of compound INDP

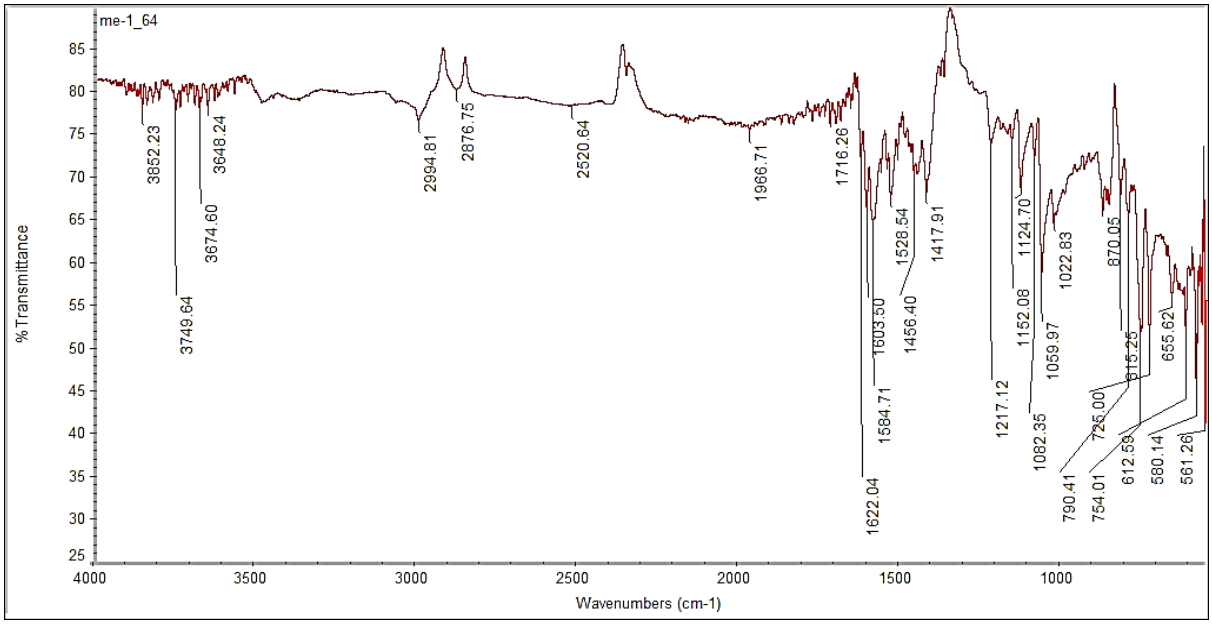

Figure S15: IR spectrum of compound Me-INDP