**Supporting Information:**

**Synthesis of 2,2'-(2-(anthracen-9-ylmethylene)-1H-indene-1,3(2H)-diylidene)dimalononitrile (CN_3)**

9-anthracenealdehyde (0.85 g, 4.12 mmol), 1,3-bis(dicyanomethylidene)indane **CN_1** (1 g, 4.12 mmol) were dissolved in acetic anhydride (100 mL). The reaction was heated at 90°C for 48 hours. Upon cooling, a precipitate formed. The solid was filtered off, washed several times with pentane and dried under vacuum. $^1$H NMR (DMSO $d_6$) δ (ppm): 7.17-7.25 (m, 5H), 7.34 (d, 2H, J = 7.2 Hz), 7.69 (d, 2H, J = 6.6 Hz), 8.00-8.08 (m, 2H), 8.52 (d, 1H, J = 7.4 Hz), 8.65 (d, 1H, J = 7.4 Hz), 9.23 (s, 1H); HRMS (ESI MS) *m*/*z*: theor: 430.1218 found: 430.1219 ($M^{+\cdot}$ detected); Anal. Calc. for $C_{30}H_{14}N_4$: C, 83.7; H, 3.3; N, 13.0 Found: C, 83.8; H, 3.2; N, 13.1%.

**Synthesis of NIS:**

**CN_1** (1eq.) was solubilized in an acetonitrile/water solution. The solution turns deep blue in agreement with the formation of $A^-$ (see text); $Ph_2I^+$ $Cl^-$ (1 eq.) (from Aldrich) was dissolved in this solution which is stirred for 24 hours. Dichloromethane and water were added and the organic phase extracted (washed several times with water). NIS is then obtained by evaporation and dried under vacuum. The $^1$H NMR spectrum of NIS is a superposition of the $^1$H NMR spectrum of $A^-$ (already given Figure 2 in the text) with the aromatic proton of $Ph_2I^+$.