

**Supporting Information**

**The long-range  $\pi$ -conjugation between electron-rich species and multiwall carbon nanotubes influences fluorescence lifetime and electromagnetic shielding**

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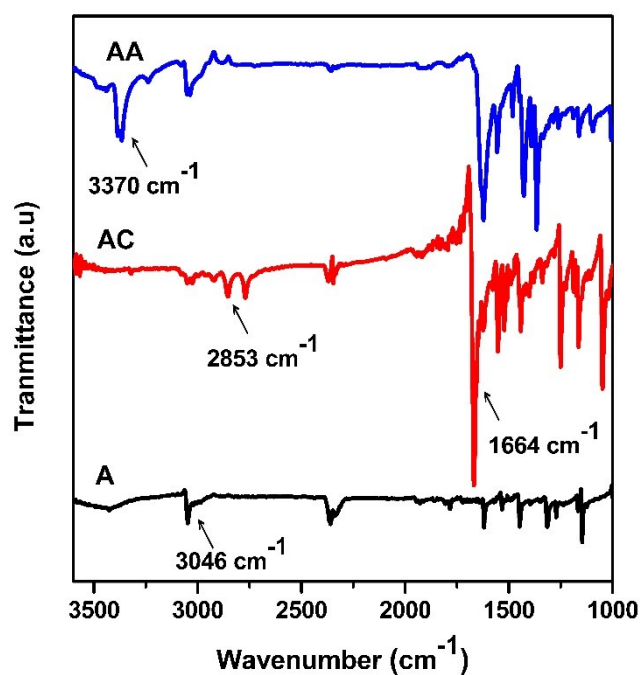


Figure S1: FT-IR of different molecules

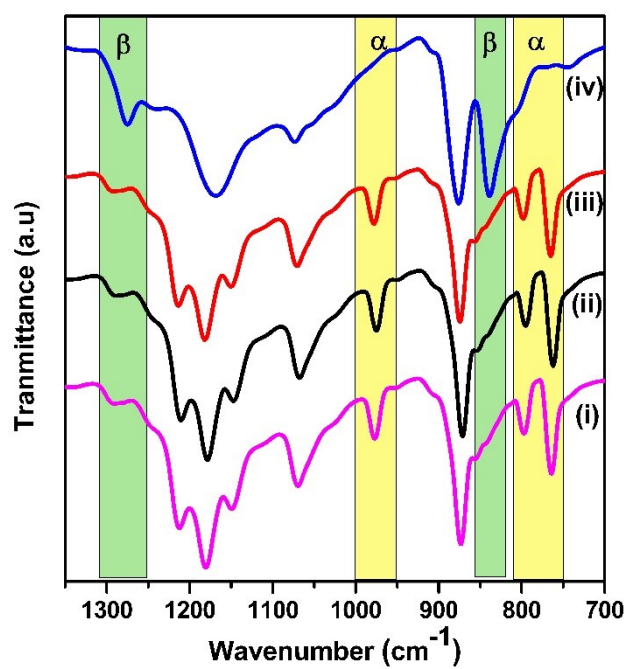


Figure S2: FT-IR of different PC/PVDF blends containing (i) MWCNT, (ii) A + MWCNT, (iii) AC + MWCNT and (iv) AA + MWCNT

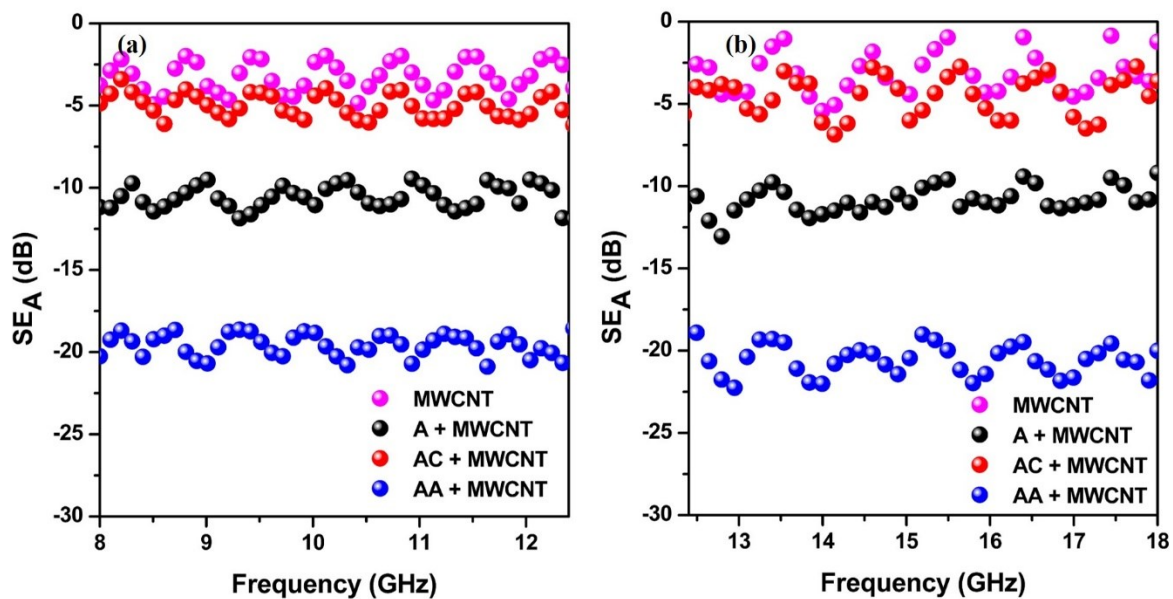


Figure S3: Shielding of absorption of various blends (a) 8- 12.4 GHz and (b) 12.4-18 GHz frequency

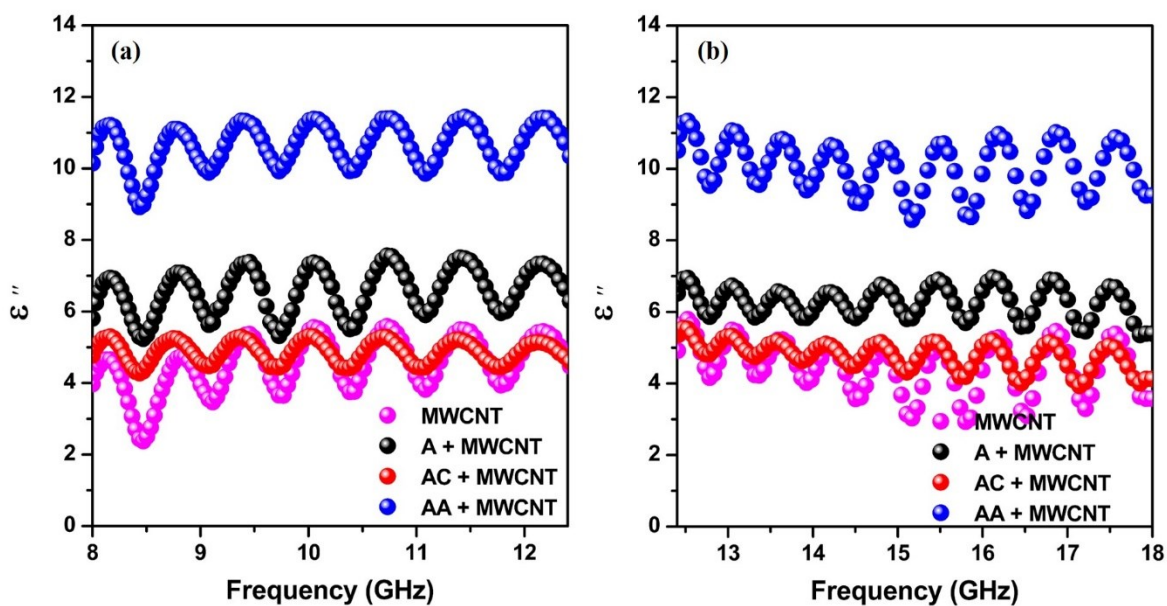


Figure S4: Dielectric loss of various blends (a) 8- 12.4 GHz and (b) 12.4-18 GHz frequency

**Table S1: Table for power law fitting exponents**

<b>Fillers</b>	$\sigma_{DC}$	<b>A</b>	<b>N</b>
<b>MWCNT</b>	3.12E-6	3.86E-14	0.82
<b>A + MWCNT</b>	2.08E-5	6.36E-9	0.72
<b>AC + MWCNT</b>	5.75E-6	8.59E-6	0.80
<b>AA + MWCNT</b>	9.9E-4	2.51E-13	0.56

**Table S2: Table for total shielding efficiency of various blends with fluorescence lifetime value**

<b>Fillers</b>	<b>SE<sub>T</sub></b> <b>(dB)</b>	<b>SE<sub>A</sub></b> <b>(%)</b>	<b><math>\tau</math></b> <b>(ns)</b>
<b>MWCNT</b>	7	52	-
<b>A + MWCNT</b>	15	71	4.15
<b>AC + MWCNT</b>	10	58	0.193
<b>AA + MWCNT</b>	25	87	8.48