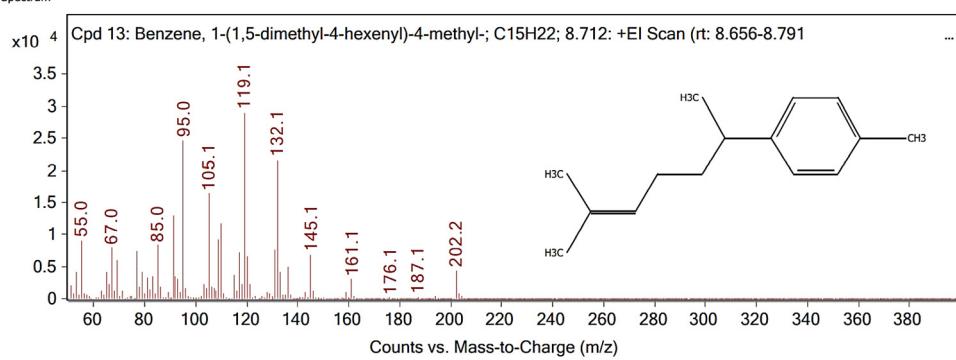
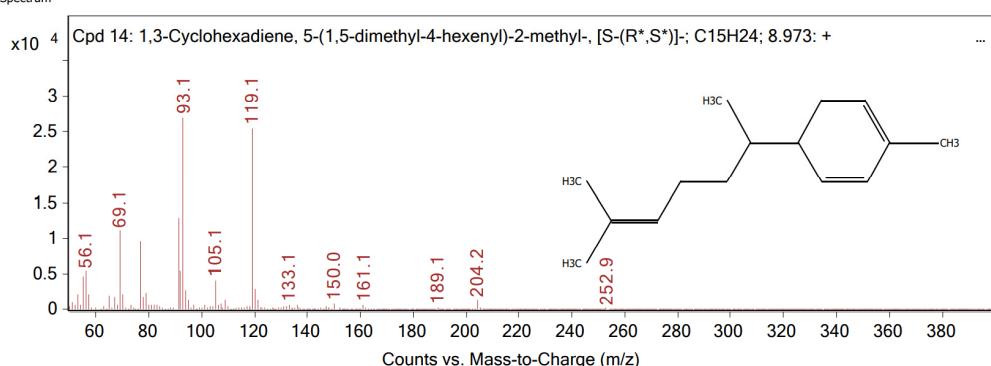


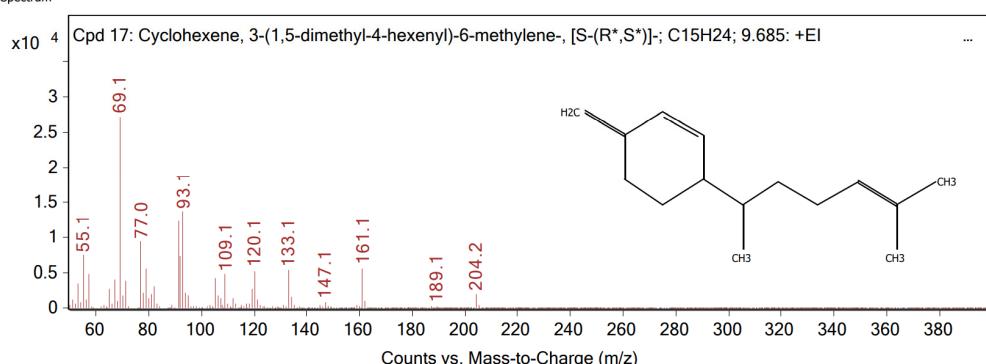
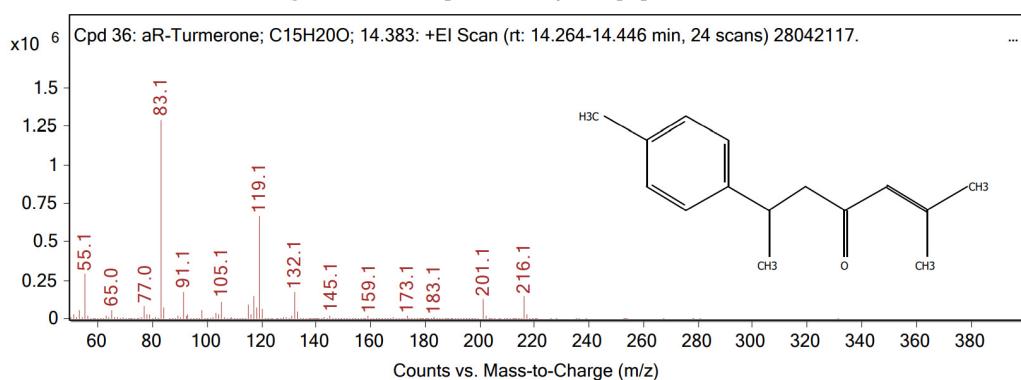
MS Spectrum

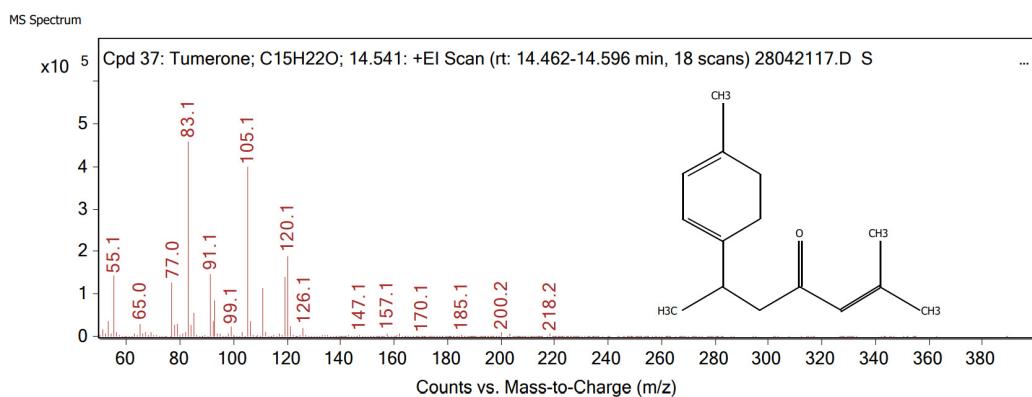
**Figure S1.** Mass spectrum of Ar-Curcumene

MS Spectrum

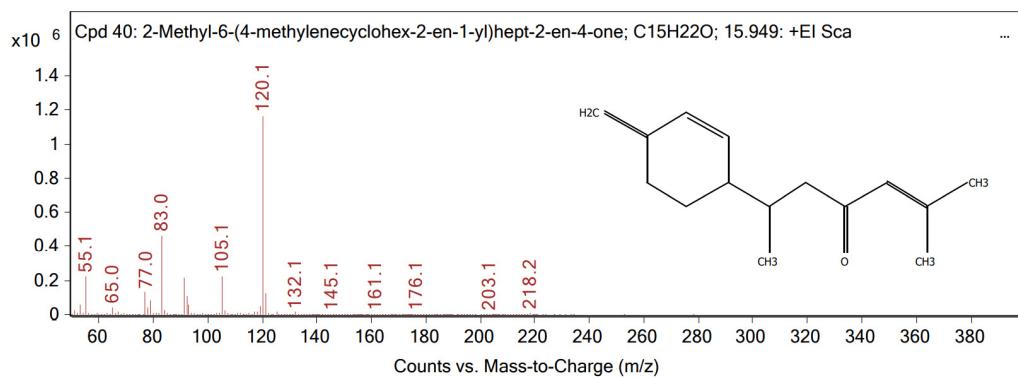
**Figure S2.** Mass spectrum of (-)-Zingiberene

MS Spectrum

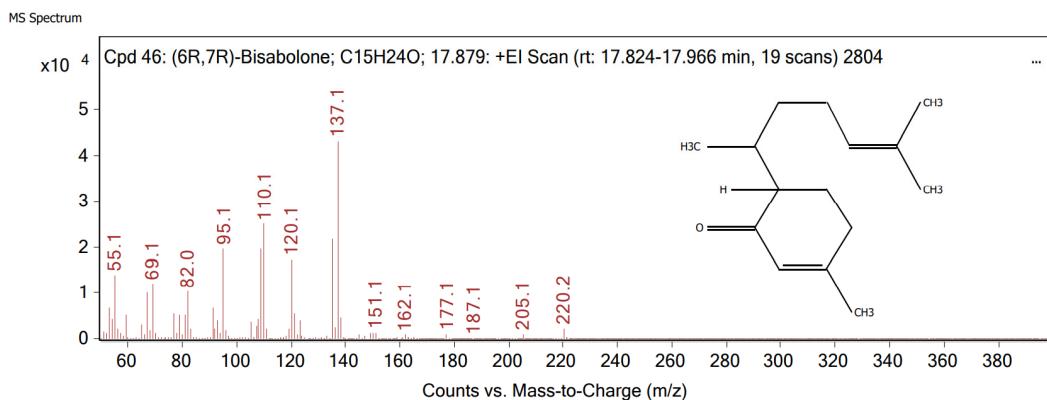
**Figure S3.** Mass spectrum of  $\beta$ -Sesquiphelandrene**Figure S4.** Mass spectrum of Ar-turmerone



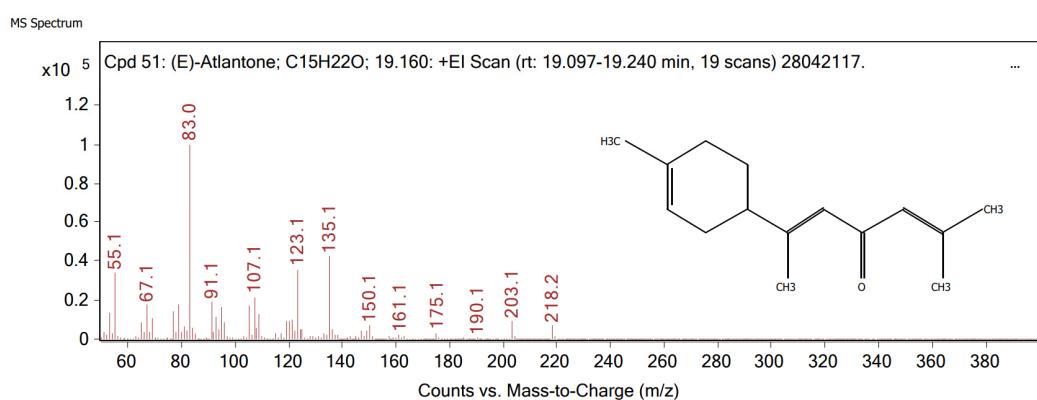
**Figure S5.** Mass spectrum of  $\alpha$ -turmerone



**Figure S6.** Mass spectrum of  $\beta$ -turmerone



**Figure S7.** Mass spectrum of (6R,7R)-Bisabolene



**Figure S8.** Mass spectrum of (E)-atlantone

**Table S1.** Mechanical and electrical properties of PVC/GN nanocomposites

Material	Tensile strength, MPa	Volume resistivity, Ωm	Surface resistivity, Ω
PVC	16.8 (0.7)	$7.7 \times 10^{14}$ ( $3.8 \times 10^{11}$ )	$7.5 \times 10^{15}$ ( $6.7 \times 10^{13}$ )
PVC+CE	19.0 (0.8)	$3.1 \times 10^{14}$ ( $2.2 \times 10^{11}$ )	$4.5 \times 10^{15}$ ( $3.9 \times 10^{13}$ )
PVC/0.01%GN	18.5 (0.8)	$1.9 \times 10^{13}$ ( $1.5 \times 10^{11}$ )	$5.8 \times 10^{15}$ ( $6.9 \times 10^{13}$ )
PVC/0.01%GN+CE	25.1 (1.0)	$1.2 \times 10^{14}$ ( $8.2 \times 10^{11}$ )	$2.5 \times 10^{15}$ ( $1.9 \times 10^{13}$ )
PVC/0.1%GN	21.8 (1.0)	$1.6 \times 10^{13}$ ( $9.8 \times 10^{10}$ )	$2.4 \times 10^{15}$ ( $1.9 \times 10^{13}$ )
PVC/0.1%GN+CE	23.6 (1.0)	$1.7 \times 10^{13}$ ( $1.7 \times 10^{11}$ )	$2.3 \times 10^{13}$ ( $2.7 \times 10^{11}$ )
PVC/0.5%GN	21.5 (1.4)	$8.4 \times 10^9$ ( $8.4 \times 10^7$ )	$2.0 \times 10^{13}$ ( $1.8 \times 10^{11}$ )
PVC/0.5%GN+CE	22.4 (1.2)	$1.2 \times 10^{13}$ ( $1.2 \times 10^{11}$ )	$2.2 \times 10^{13}$ ( $4.2 \times 10^{11}$ )
PVC/1%GN	21.2 (0.9)	$3.9 \times 10^5$ ( $3.5 \times 10^4$ )	$1.5 \times 10^7$ ( $2.1 \times 10^5$ )
PVC/1%GN+CE	22.7 (0.3)	$1.2 \times 10^{13}$ ( $9.9 \times 10^{10}$ )	$2.11 \times 10^{13}$ ( $4.9 \times 10^{11}$ )