Electronic Supplementary Information (ESI) for

Organic Vapor Sensing Behaviors of Conductive Thermoplastic

Polyurethane-Graphene Nanocomposites

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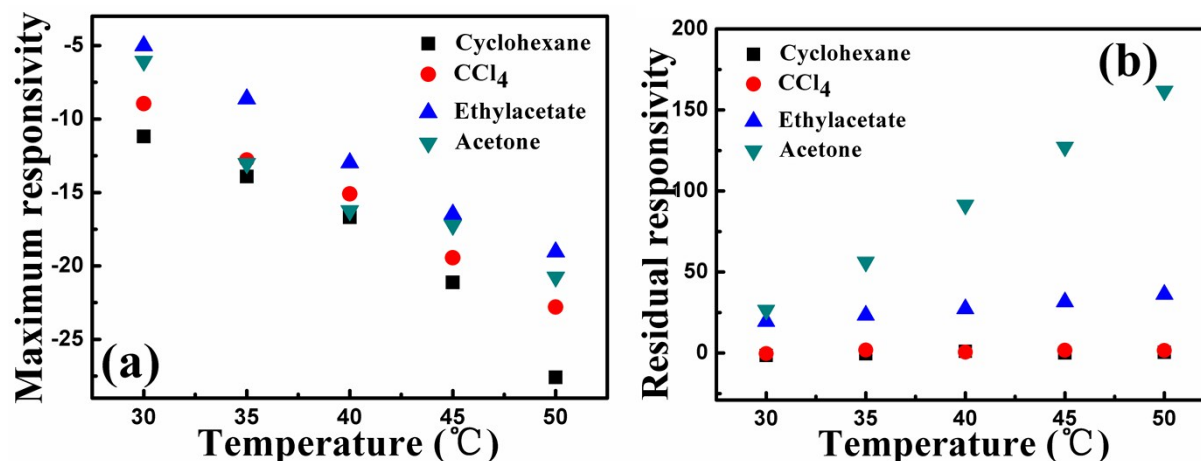E-mail addresses: kundai@zzu.edu.cn (K. D.),
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Fig. S1 The maximum responsivity and residual responsivity of CPCs towards different organic vapors at different temperatures.

Table S1. Comparison of organic vapor sensing behaviors of typical CPCs.

Sample	Percolation threshold	Filler loading	Sensing behavior	Ref.
CB/WPU	0.95 wt%	0.5 wt%	NVC	1
CNT/TPU	0.8 wt%	2.3 wt%	PVC	2
MWCNT/PLA	≈2 wt%	2 wt%, 3 wt%	PVC	3
CNT/PLA	0.52 wt%	In the percolation region	PVC	4
GO/PPr	—	—	PVC	5
CB/PLA	1.25 vol%	1.39 vol%	PVC	6
CNT/PMMA/UHWPE	0.09 vol%	0.5 vol%	PVC	7
Graphene/TPU	0.1 wt%	0.4 wt%	NVC	This work

The NVC phenomenon was also observed in CB/WPU composites when the CB content was below the percolation threshold. However, the imperfect conductive network in the composites with the conductive filler content below the percolation threshold induced unstable signal output. In the current study, the conductive graphene loading is above percolation threshold value and contributes to the stable signal observed in the main text.

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