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# Non-covalently anchored multi-walled carbon nanotubes with hexadecafluorinated zinc phthalocyanine as ppb level chemiresistive chlorine sensor

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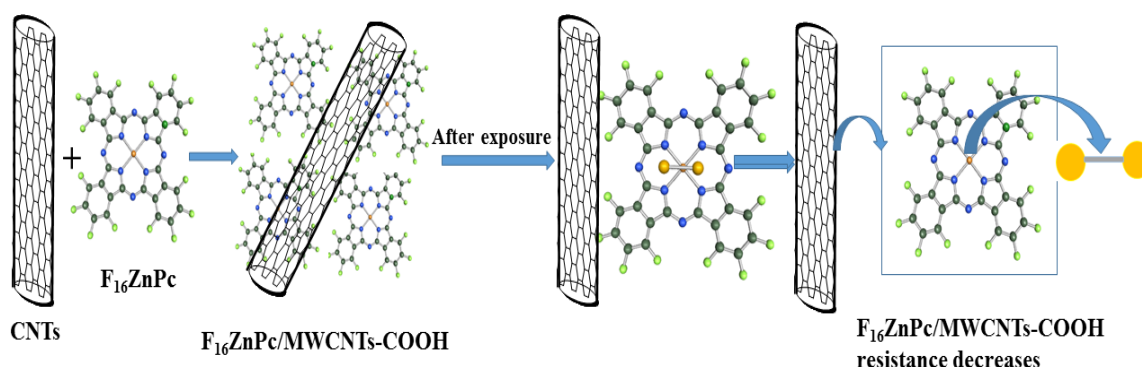
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## Graphical Abstract



## Highlights

1. Fabrication of highly sensitive and selective ppb level CNTs based chemiresistive Cl<sub>2</sub> sensor using F<sub>16</sub>ZnPc/MWCNTs-COOH hybrids.
2. F<sub>16</sub>ZnPc molecules are non-covalently attached onto CNTs through π-π stacking.
3. F<sub>16</sub>ZnPc/MWCNTs-COOH sensor shows high sensitivity to Cl<sub>2</sub> with a detection limit down to 0.06 ppb with excellent baseline recovery and reversibility.
4. The underlying mechanism for the enhanced sensing performance of the sensor is discussed.

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