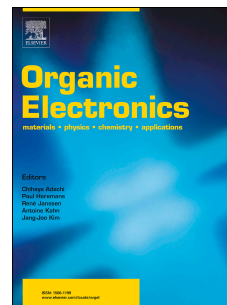


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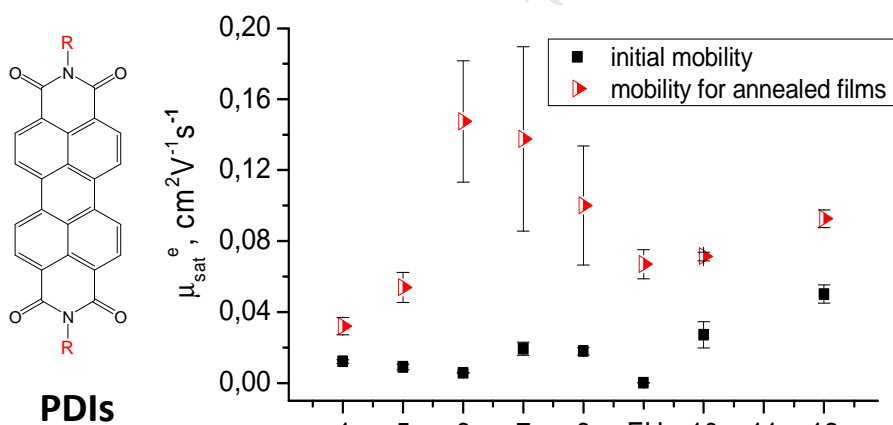
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Graphical Abstract



Highlights

- Alkyl chains attached to the PDI core define electrical properties of these materials
- Thermal annealing is crucial for achieving best performance of PDIs resulted in OFETs
- Optimal thermal annealing regimes correlate with the phase transitions of PDIs
- OFET performance of PDIs correlates with their phase transition enthalpies
- DSC measurements can speed up screening of organic semiconductors in OFETs

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