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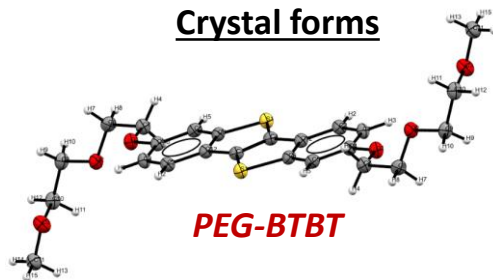
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## Motivation and aim

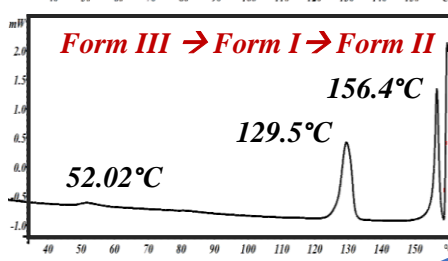
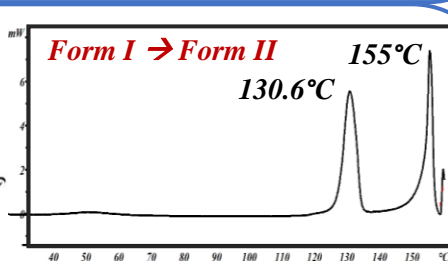
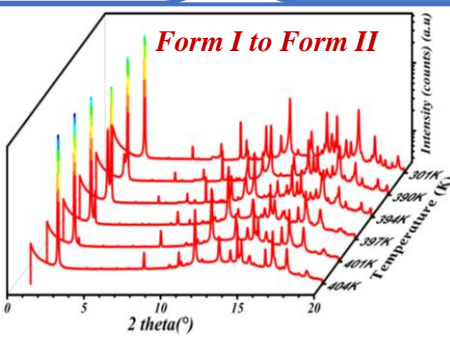
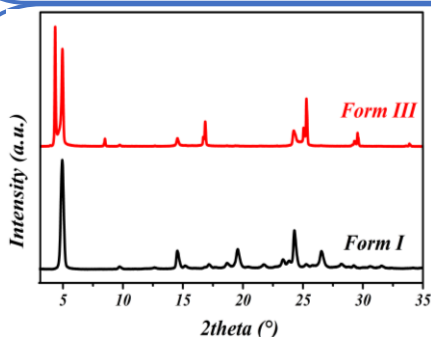
Polymorphism in organic Semiconductor (OSC) molecules have remarkable impact on the charge carrier mobility. The structural attributes of an OSC molecules have major role in governing the electrical performances.

While BTBT derivatives are well-known in the field of OSCs, polyethylene glycol (PEG) chains substitutions in the BTBT core is studied in this work.

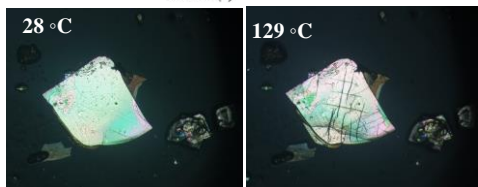
## Crystal forms



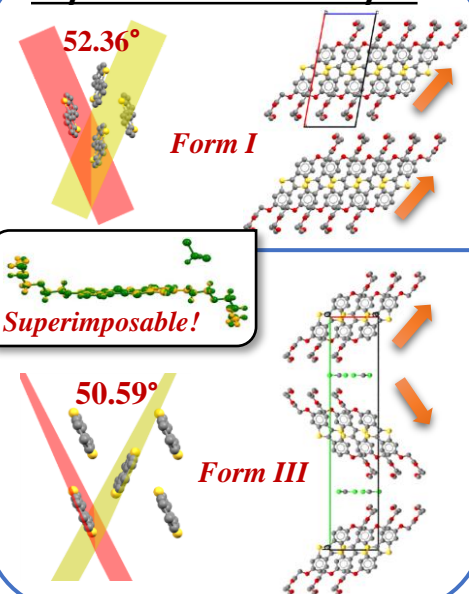
- **Form I:** Thermodynamically stable form
- **Form II:** High temperature form
- **Form III:** Solvate in dichloromethane



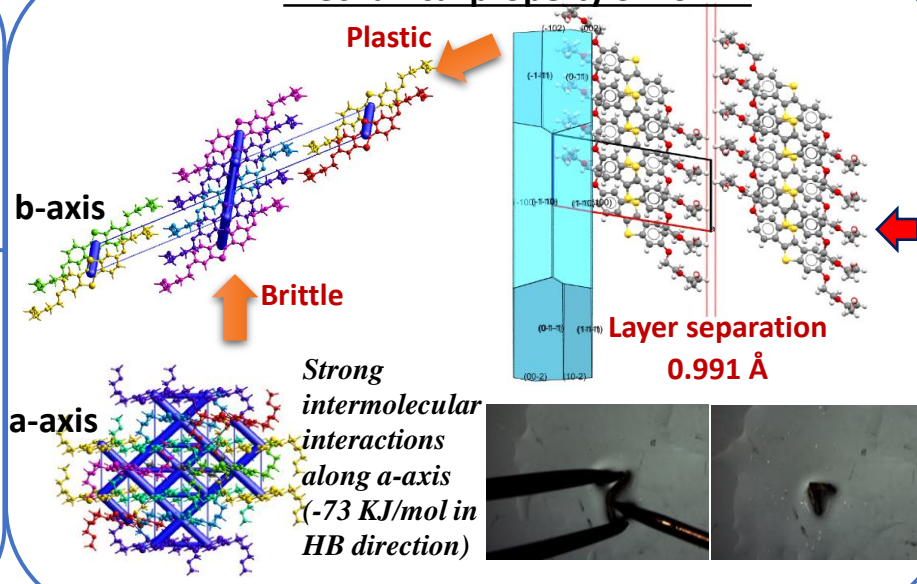
All the transitions were confirmed by DSC, VT-XRD and HSM



## Crystal structure analysis



## Mechanical property of Form I



We explored the three crystal forms of PEG-BTBT. The rare occurrence of solvate in OSC was discovered. The RT crystal form, Form I with plasticity can be a future candidate for organic electronics