Summary: Large two-dimensional molecules with extended π-systems are subject of increasing interest as a consequence of their technological applications. In particular, hexaza-triphenylene (HAT) derivatives, present a great interest due to the influence of heteroatoms on the electronic nature without modifying the structure. This synthesis paves the way for further conjugated donor-acceptor derivatives of HAT.

Non-centrosymmetric HAT Synthesis, UV-Vis Absorption Spectroscopy and Redox Behaviour

TriHAT is obtained in moderated yields with good purity.

TriHAT is about 0.75 V better acceptor than HAT.

Only the E,E isomers are formed as seen in NMR.

When the donor power increases the maximum absorption wavelength also increases.

All the non-centrosymetric HATS show a donor-acceptor electrochemical behaviour.

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References:


2. π-Conjugated donor-acceptor molecules bearing a HAT core and donor groups in the periphery. This synthesis paves the way for further conjugated donor-acceptor derivatives of HAT.

3. Only the E,E isomers are formed as seen in NMR.

4. When the donor power increases the maximum absorption wavelength also increases.

5. All the non-centrosymmetric HATS show a donor-acceptor electrochemical behaviour.

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