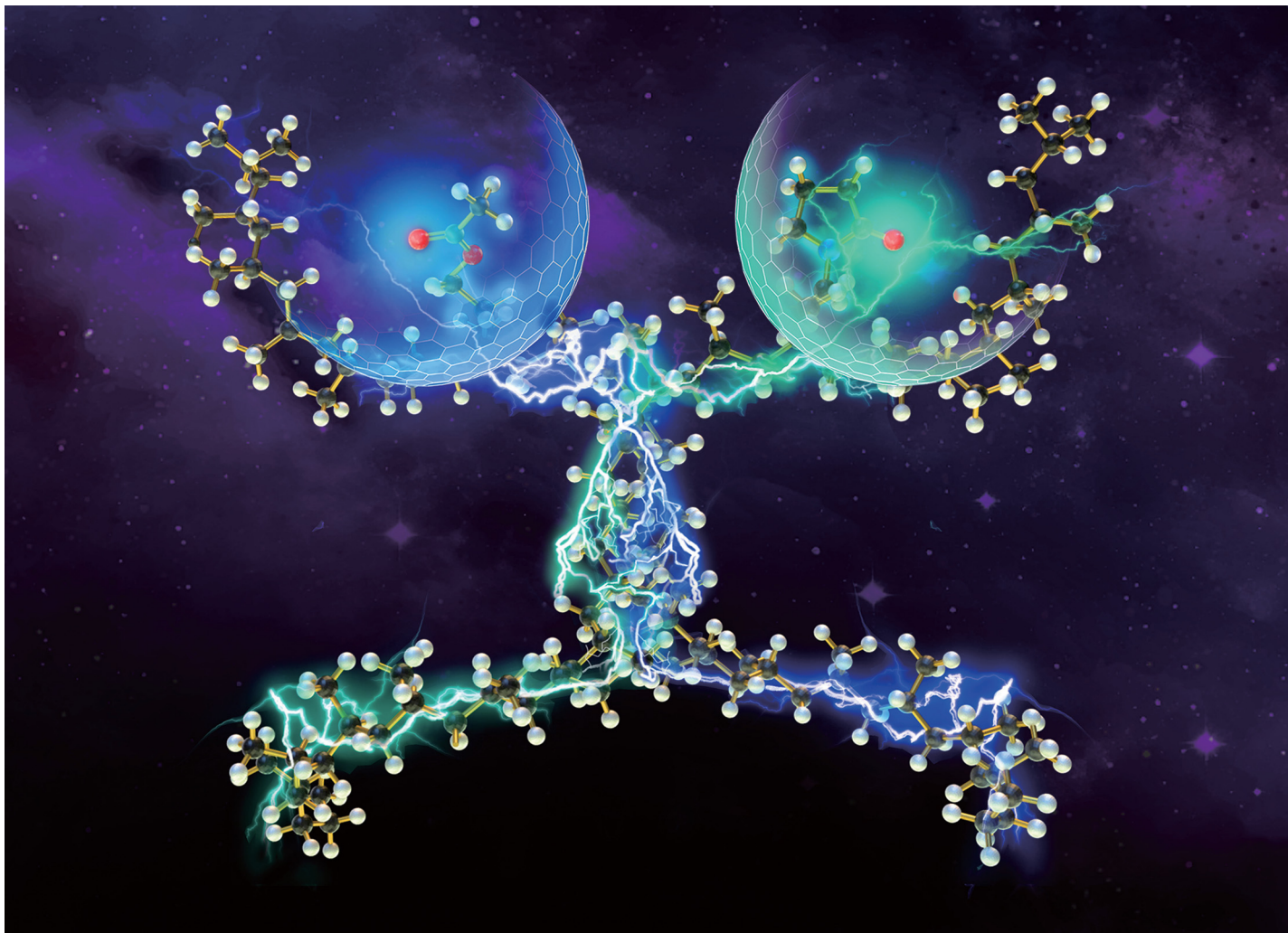




Showcasing research from the group of Professor Jinliang He,
Department of Electrical Engineering, Tsinghua University.

Side group topological structure modified orbital and condensed state characteristics enhance the electrical anti-breakdown performance of polyolefin

Owing to the trapping effect of the π^* bond unoccupied orbital, a polar carbonyl side group grafted onto simple polyolefin builds an AEGIS against the electron transport along the molecular chain. The structural topology of the carbonyl carrier: aliphatic chain or saturated ring, alters the chemical environment and influences the blocking effect. Apparently, the former is superior. Such influence should be attributed to the side group topology effect on the orbital chemical environment and free volume of condensed solid state.

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