Review

Benzodichalcogenophene-based Conjugated Polymers as Photovoltaic Materials

Xin Lin Wong, Md Lutfor Rahman, Mohd Sani Sarjadi*

Faculty of Science and Natural Resources, University Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah Malaysia

*E-mail: msani@ums.edu.my

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Conjugated polymers have appeared to be a promising electron-donating material in organic photovoltaics (OPVs). The designing of conjugated polymers is critical for improved efficiency and intensive efforts have devoted to design high-performance polymers over the past few decades. In this context, we focused on the use of heteroatom substitution in altering the physical properties of conjugated polymers. Owing to the increasing interest in the modification of thiophene-based conjugated polymers with Group 16 atoms, this work summarized the recent progress of these modifications and highlighted the impact of Group 16 atoms on the performance of conjugated polymers. Given polymers based on benzodithiophene (BDT) skeleton contributed largely to the recent progress of efficiency, we emphasized the subtle modification in benzodichalcogenophene-based polymers.

Keywords: Organic photovoltaic, conjugated polymers, chalcogens, benzodichalcogenophene

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