

CORRECTION

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Correction: Peripheral halogenation engineering controls molecular stacking to enable highly efficient organic solar cells

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Correction for 'Peripheral halogenation engineering controls molecular stacking to enable highly efficient organic solar cells' by Yalu Zou et al., *Energy Environ. Sci.*, 2022, <https://doi.org/10.1039/d2ee01340a>.

The broader context section for this article was missing. It should have appeared as follows.

Modifying non-fullerene acceptors (NFAs) with peripheral halogenation has been considered as a relatively simple but an effective strategy to boost power conversion efficiencies (PCEs). However, the lack of systematical investigation, especially in the state-of-the-art **Y6** series NFAs, makes the bridge between peripheral halogenation in both central units and end groups and molecular stacking, active layer morphology, charge transfer/transport dynamics and device performances of the resulting OSCs a crucial but still unaddressed issue. Herein, based on our previous experience in molecular engineering, a novel series of non-fullerene acceptors (NFAs), **CH-6F**, **CH-4Cl** and **CH-6Cl**, are designed and synthesized, featuring multiple peripheral halogenations in both conjugate extended central units and end groups. With **CH**-series NFAs, a comprehensive study has been conducted to systematically probe the significant effects of peripheral halogenation on their single crystal packing, disclosing that peripheral halogenation induced completely different crystal systems and quite unique molecular packing modes. Moreover, this superior molecular packing optimizes film morphology, improves photovoltaic performances, and reduces energy losses of the resulting OSCs. Finally, by utilizing **CH**-series NFAs, a series of highly-efficient OSCs have been afforded with a champion PCE of 18.22% and markedly reduced ΔV_{nr} of 0.203 V in **CH-4Cl**-based ternary devices. Our results indicate that controlling molecular stacking modes by peripheral halogenation engineering should be a possible avenue toward OSCs with higher efficiency.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

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