Electronic Supplementary Material (ESI) for Chemical Science.

Electronic Lieb lattice signatures embedded in two-dimensional polymers with square lattice

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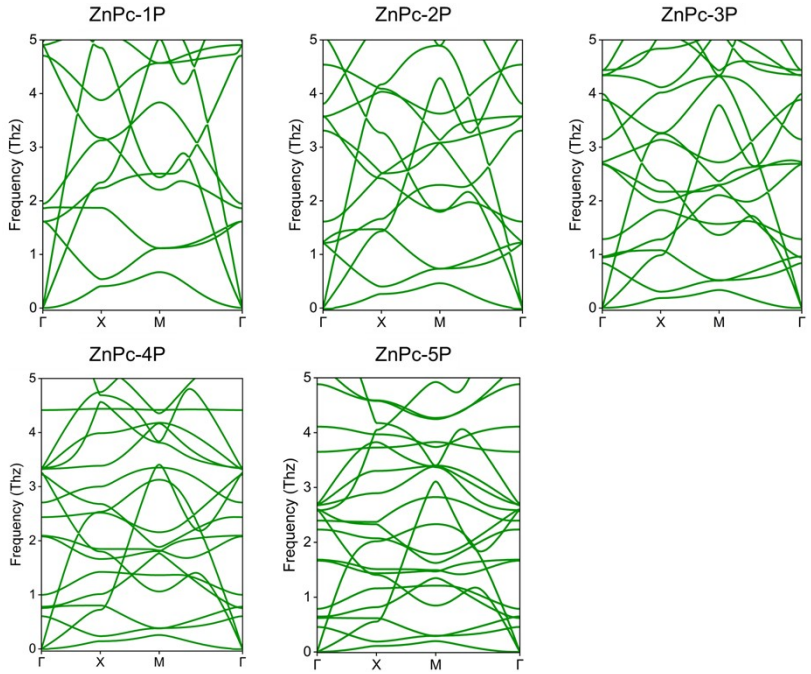

Figure SI-1. Phonon dispersions of ZnPc-*x*P 2DPs.

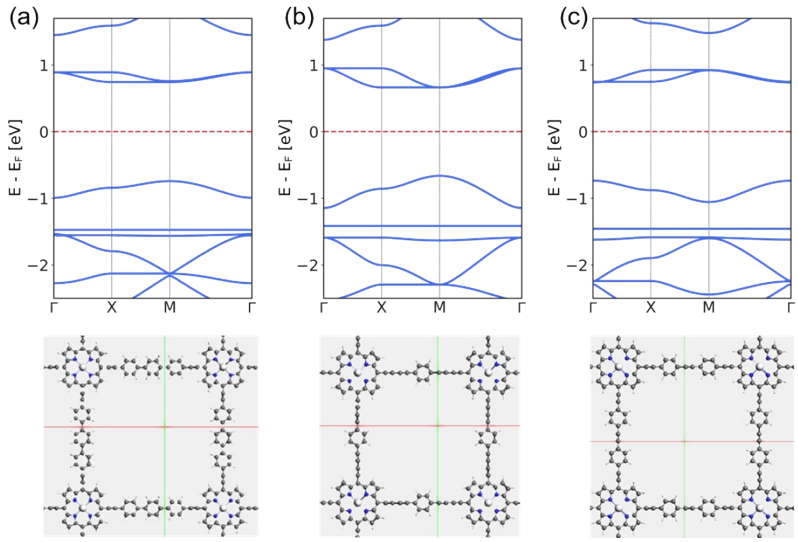

Figure SI-2. Band structure and the top view of the ZnPc-*x*P COF, connected with porphyrin and phenyl group. (a) ZnPP-3P COF, (b) ZnPP-1P COF, and (c) ZnPP-2P COF, showing the parity of the Dirac cone position, altered between M and Γ.

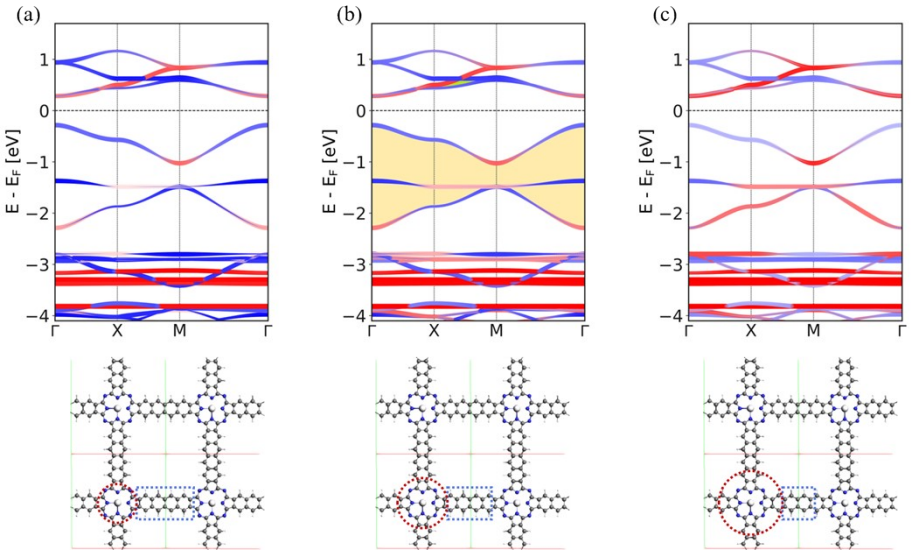

Figure SI-3. Band structure and the top view of the ZnPc-4P COF in different boarder position between center/linker. The red and blue bands indicate the orbital contribution from center and linker, which are highlighted with the same color in the crystal structure.

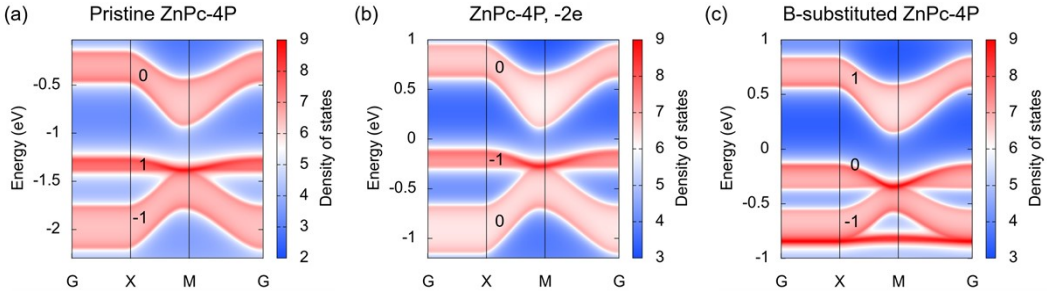

Figure SI-4. Edge states and Chern number of (a) pristine ZnPc-4P, (b) ZnPc-4P with two electrons removed (two holes introduced) per unit-cell, (c) B-substituted ZnPc-4P.

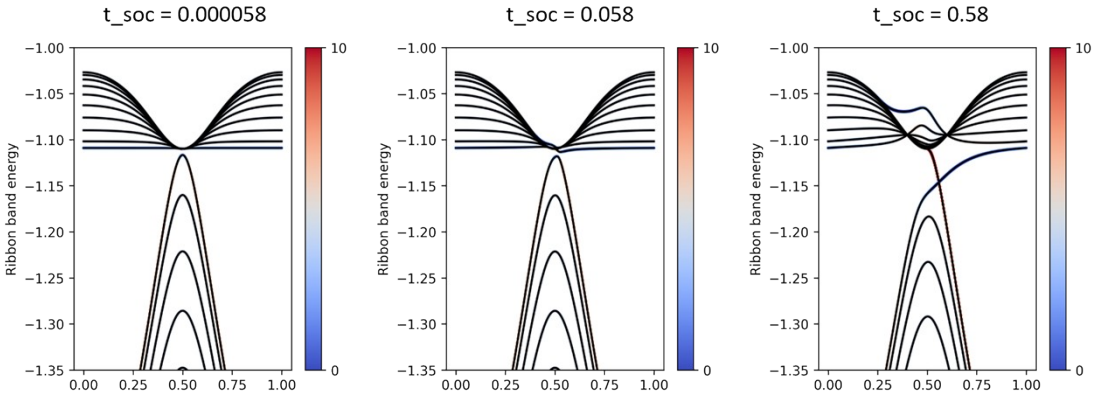

Figure SI-5. Edge states of the fitted TB model of ZnPc-4P at different degrees of spin-orbit coupling (SOC).

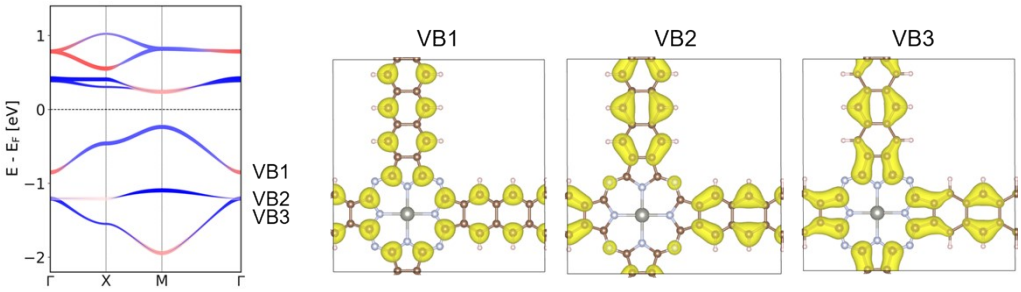

Figure SI-6. Band structure, and charge density distribution of the top three VB bands of ZnPc-5Bz.

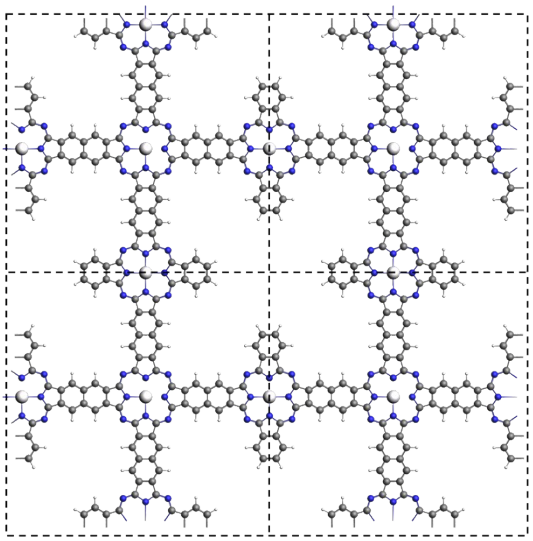

Figure SI-7. Top view of ZnPc-ZnPc COF.