

Supplementary Information

Excitation energies, singlet-triplet energy gap, spin-orbit matrix elements and heavy atom effect in BOIMPYs as possible photosensitizers in photodynamic therapy. A computational investigation

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Table of Contents

| | |
|---|---|
| Table S1: SOCs computed for compounds 1 and 4 by using B3LYP functional in conjunction with different basis sets..... | 2 |
| Figure S1: Molecular orbitals composition for the excited states involved in the singlet and triplet excitation for 1-5, 7 compounds..... | 3 |

-Table S1-

Average squared values (cm^{-1}) of Spin-orbit Cartesian components between low-lying singlet and triplet states calculated employing B3LYP in conjunction with different basis sets on **1** and **4** optimized structures at B3LYP/6-31G* level of theory.

| Cmpd | Basis set | $\langle \Psi_{S_1} \hat{H}_{so} \Psi_{T_1} \rangle$ | $\langle \Psi_{S_1} \hat{H}_{so} \Psi_{T_2} \rangle$ | $\langle \Psi_{S_1} \hat{H}_{so} \Psi_{T_3} \rangle$ | $\Delta E_{S_1 \rightarrow T_1}$ | $\Delta E_{S_1 \rightarrow T_2}$ | $\Delta E_{S_1 \rightarrow T_3}$ |
|----------|-----------|--|--|--|----------------------------------|----------------------------------|----------------------------------|
| 1 | cc-pVDZ | 0.01 | 0.28 | | 1.40 | 0.36 | |
| | cc-pVTZ | 0.01 | 0.32 | | 1.39 | 0.35 | |
| 4 | cc-pVDZ | 5.31 | 44.56 | 31.26 | 1.30 | 0.31 | 0.20 |
| | cc-pVTZ | 5.41 | 41.43 | 31.68 | 1.28 | 0.30 | 0.17 |

-Figure S1-



