# **Supporting Information**

## Photocatalytic Coatings Based on a Zinc(II) Phthalocyanine Derivative Immobilized on Nanoporous Gold Leafs with Various Pore Sizes

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### ESI-1 Supplementary data for the photocatalytic setup used for DPBF oxidation



**Fig. S1:** Schematic representation of the photocatalysis setup modified from [1] with permission from LOT qd GmbH, Darmstadt, Germany and reproduced from [2] with permission from MDPI, Basel, Switzerland.

#### ESI-2 Supplementary data for the characterization of the npAu foils



**Fig. S2:** Representative optical image of a npAu foil with a surface area of 1.5 x 1.5 cm in a) and b) a representative SEM image of a npAu foil measured over the cross section with a magnification of 100000 to show the thickness of the npAu foil of 100 nm.



**Fig. S3:** Structure of the npAu foil modified with the linker azidothioate **1** and functionalized with the ZnPc **2**. (a) SEM image of the surface used for EDX measurements, (b) EDX mapping for the element Au, (c) EDX mapping for the element Zn and (d) combined EDX mapping for the elements Au and Zn.



#### ESI-3 Supplementary data for the photooxidation of DPBF with npAu foils

**Fig. S4:** UV Vis spectra and obtained conversion plots for the photooxidation of DPBF using npAu foil hybrid photocatalysts with pore sizes of a) 9.57 nm; b) 14.2 nm; c) 21.4 nm; d) 37.0 nm and d) 48.5 nm. All photooxidations were performed under irradiation with a 550 nm cut-on filter.

#### **References:**

- [1] https://lot-qd.de/fileadmin/Mediapool/products/lightsources/LQ-Light-sourceaccessories-schematic.png (accessed February 06, 2019).
- [2] D. Steinebrunner, G. Schnurpfeil, A. Wichmann, D. Wöhrle and A. Wittstock, *Catalysts*, 2019, **9**, 555.