

## Supporting Information

for

# Photocatalytic nucleophilic addition of alcohols to styrenes in Markovnikov and anti-Markovnikov orientation

Martin Weiser<sup>1</sup>, Sergej Hermann<sup>1</sup>, Alexander Penner<sup>1</sup> and Hans-Achim Wagenknecht\*<sup>1</sup>

Address: <sup>1</sup>Institute of Organic Chemistry, Karlsruhe Institute of Technology (KIT), Fritz-Haber-Weg 6, 76131 Karlsruhe, Germany

Email: Hans-Achim Wagenknecht - Wagenknecht@kit.edu

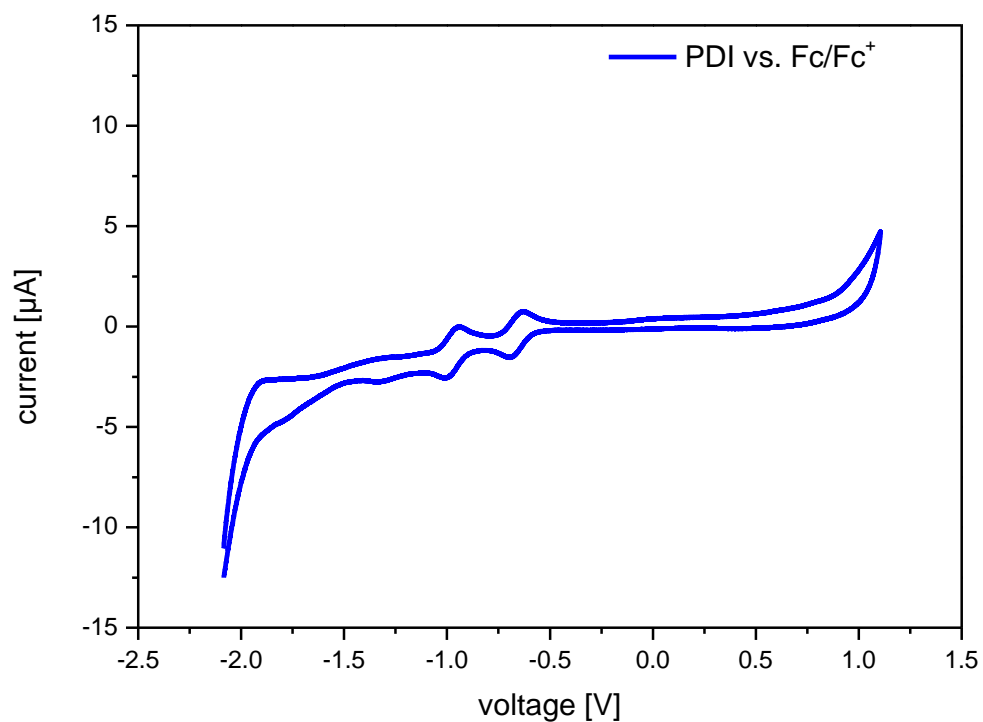
\* Corresponding author

**Spectral data: Cyclic voltammogram of PDI, determination of  $E_{00}$  of PDI, Stern–Volmer plots of PDI in the presence of substrate 1, spectroelectrochemistry of PDI, pictures of the mesoflow setups.**

## Contents

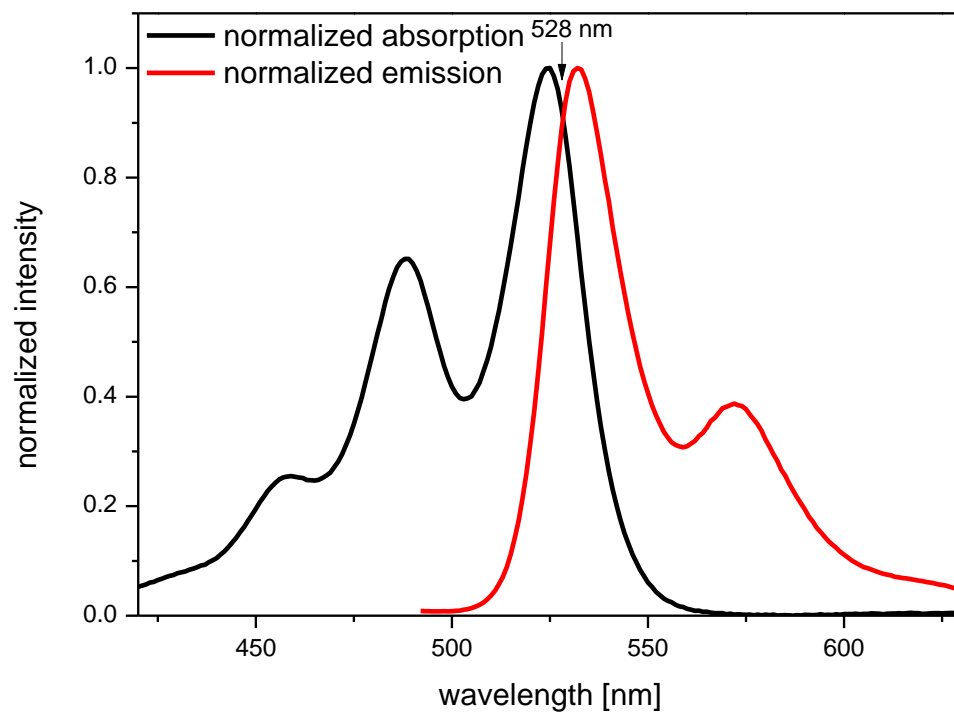
|  |    |
|--|----|
| 1. Cyclic voltammogram of PDI.....                           | S2 |
| 2. Determination of $E_{00}$ of PDI.....                     | S3 |
| 3. Stern–Volmer plots of PDI in presence of substrate 1..... | S4 |
| 4. Spectroelectrochemistry of PDI.....                       | S5 |
| 5. Setup of mesoflow reactors.....                           | S6 |

## 1. Cyclic voltammogram of PDI



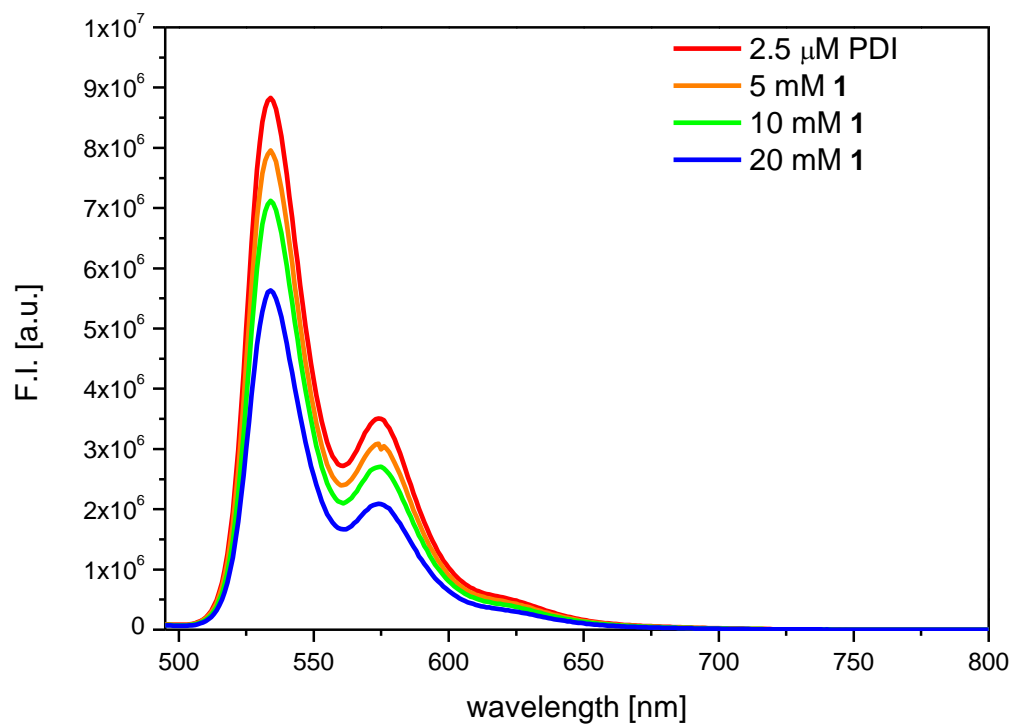
**Figure S1:** Cyclic voltammogram of PDI (vs Fc/Fc<sup>+</sup>), 20 mV/s, 0.1 M in TBAHFP in CH<sub>2</sub>Cl<sub>2</sub>,  $E_{\text{red}}(\text{PDI}/\text{PDI}^{\bullet-}) = -0.66 \text{ V}$  (vs Fc/Fc<sup>+</sup>);  $E_{\text{red}}(\text{PDI}/\text{PDI}^{\bullet-}) = -0.28 \text{ V}$  (vs SCE) [1].

## 2. Determination of $E_{00}$ of PDI



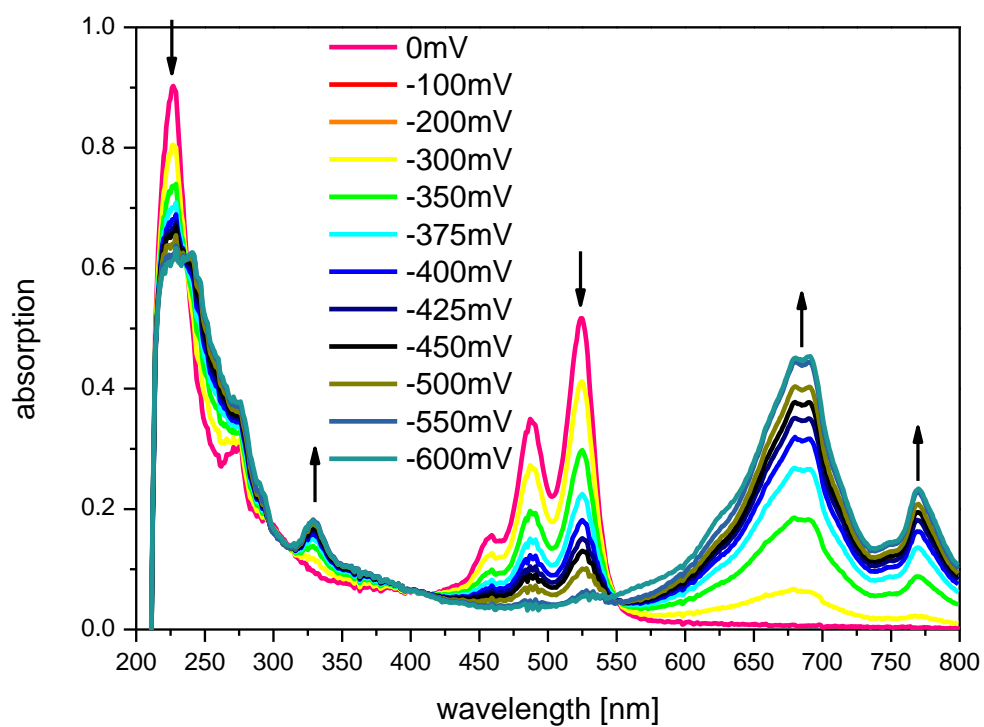
**Figure S2:** normalized absorption (black) and emission (red) spectra of PDI in  $\text{CH}_2\text{Cl}_2$ .  $\lambda_{\text{abs}} = 525 \text{ nm}$ ,  $\lambda_{\text{em}} = 530 \text{ nm}$ ,  $\lambda_{\text{int}} = 528 \text{ nm}$ ,  $E_{00} = 2.35 \text{ eV}$ .

### 3. Stern–Volmer plots of PDI in presence of substrate 1



**Figure S3:** Emission spectra of PDI (2.5  $\mu\text{M}$ ) without (red) and with concentrations of 5 (orange), 10 (green) and 20 mM (blue) of **1** in  $\text{CH}_2\text{Cl}_2$ ;  $\lambda_{\text{exc}} = 487$  nm.

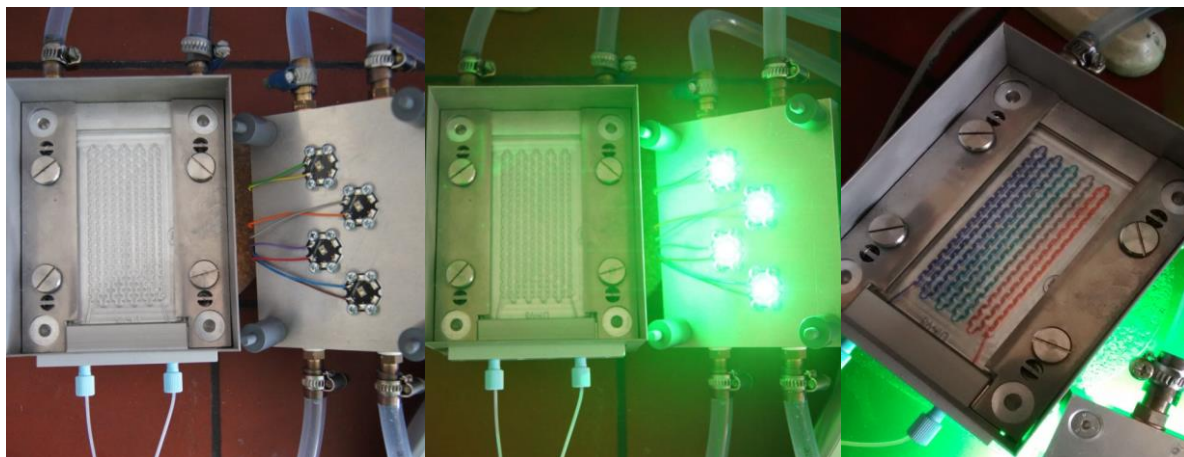
#### 4. Spectroelectrochemistry of PDI



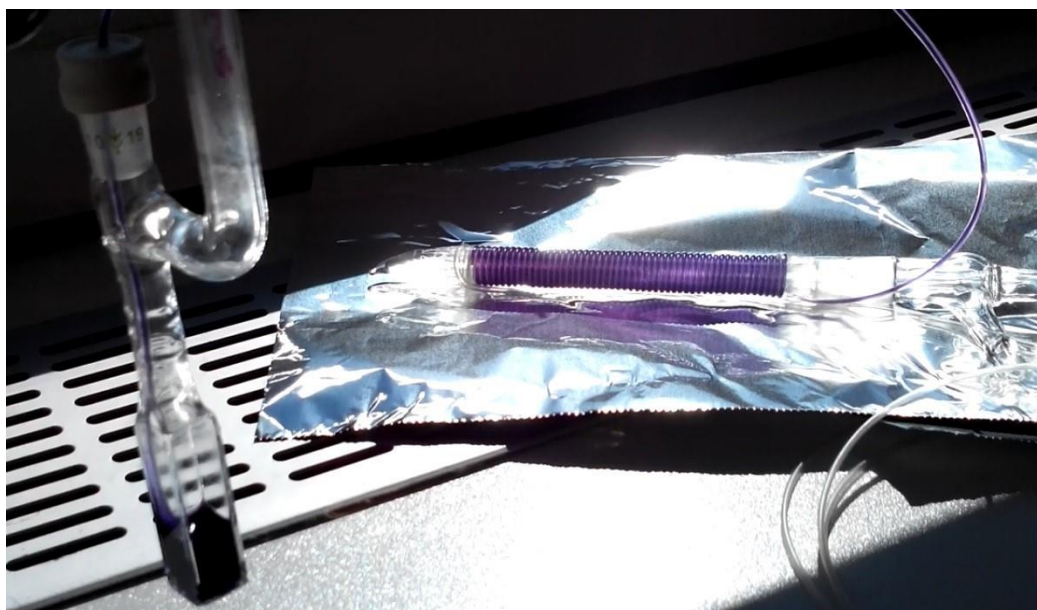
**Figure S4:** Spectroelectrochemistry of PDI in CH<sub>2</sub>Cl<sub>2</sub>.

## 5. Setup of mesoflow reactors

Mesoflow reactor 1 is the commercially available borosilicate glass reactor LTF-VS, purchased from the little things factory ([http://www.ltf-gmbh.com/produkte/mr\\_lab.html](http://www.ltf-gmbh.com/produkte/mr_lab.html)) with an inner diameter of 1 mm and dimension of 115 × 60 × 6 mm (L, B, H).



Mesoflow reactor 2 is made of PTFE tubing with an inner diameter of 1.0 mm wrapped around a cooling finger. Pressure was controlled with an argon balloon.



## References

1. Pavlishchuk, V. V.; Addison, A. W., *Inorg. Chim. Acta* **2000**, 298, 97-102.