

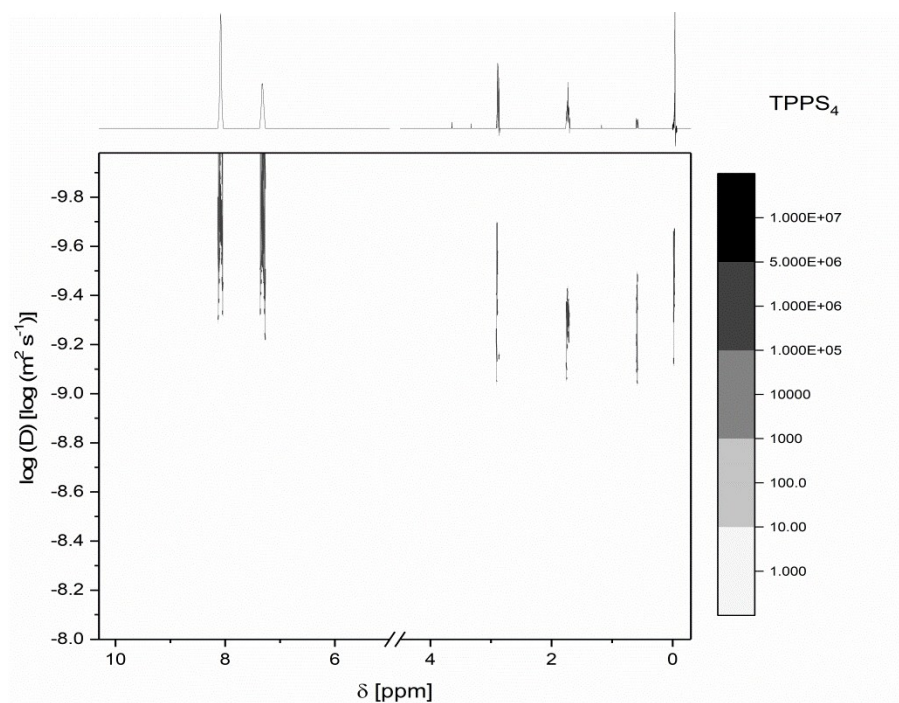
Evaluation of Uptake and Release of Photosensitizers in Hydrogels for Application in Photodynamic Therapy: The Impact of Structural Parameters on Transport Dynamics – Electronic Supplementary Information

Received 00th January 20xx,
Accepted 00th January 20xx

DOI: 10.1039/x0xx00000x

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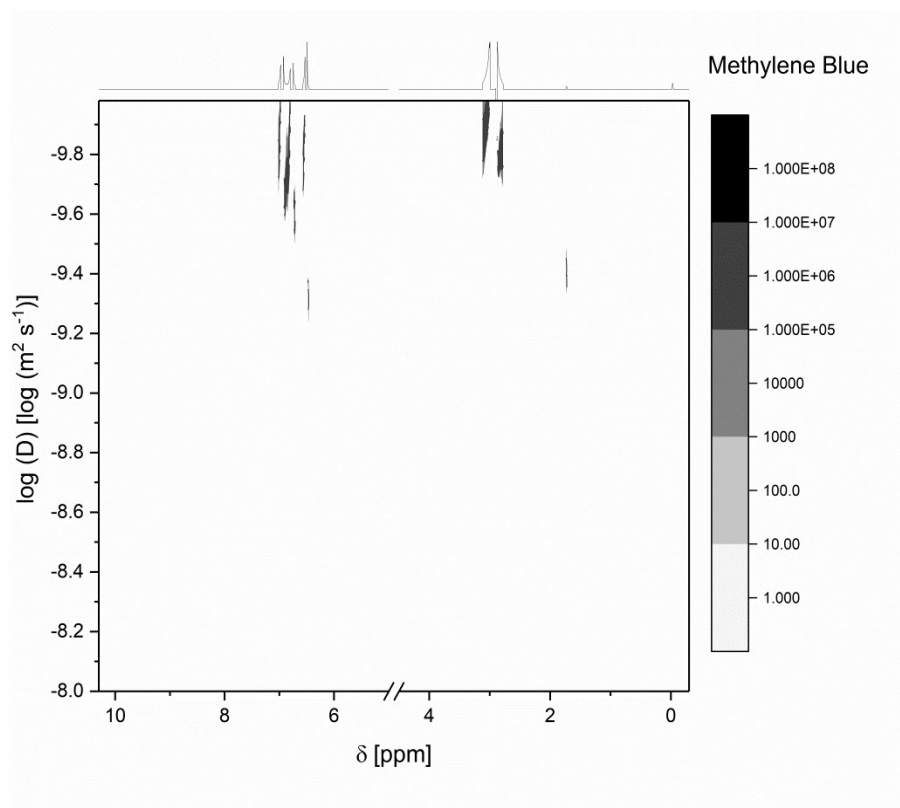


Supplementary Figure 1: DOSY spectra TPPS₄. Signals at 0.00, 0.59, 1.72 and 2.88 ppm correspond to the NMR standard 4,4-dimethyl-4-silapentane-1-sulfonic acid (DSS). The diffusion coefficient of DSS was 9.30 m² · s⁻¹. The NMR signals at 7.30 and 8.00 correspond to TPPS₄. The diffusion coefficient of TPPS₄ was 9.70 m² · s⁻¹. c(TPPS₄) = 1 · 10⁻³ M (in D₂O)

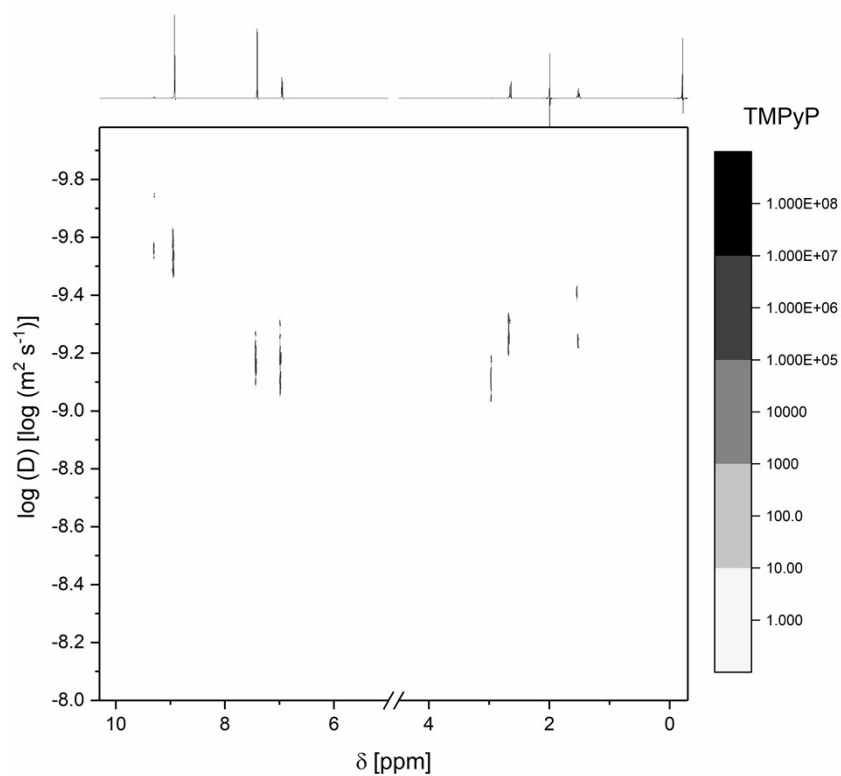
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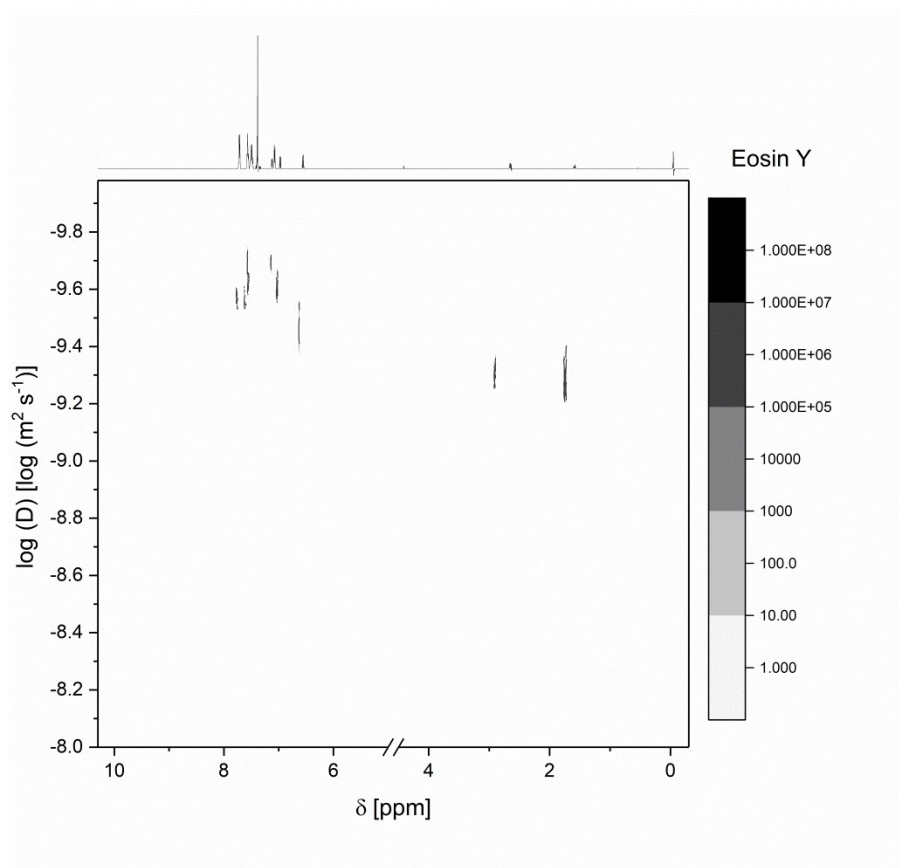
Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x



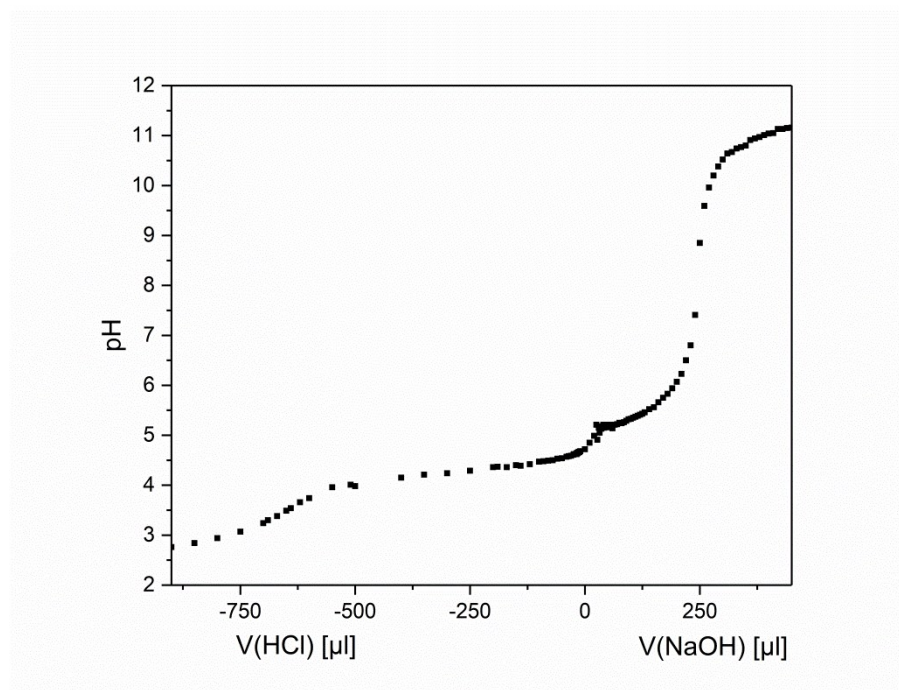
Supplementary Figure 2: DOSY spectra of methylene blue. Signals at 0.00 and 1.72 ppm correspond to the NMR standard DSS. The diffusion coefficient of DSS was $9.30 \text{ m}^2 \cdot \text{s}^{-1}$ (signals at 0.59 and 2.88 ppm were too small to be displayed). The NMR signals at 2.79, 3.05, 6.55, 6.85 and 6.96 ppm correspond to methylene blue. The diffusion coefficient was $9.58 \text{ m}^2 \cdot \text{s}^{-1}$. $c(\text{Methylene blue}) = 1 \cdot 10^{-3} \text{ M}$ (in D_2O)



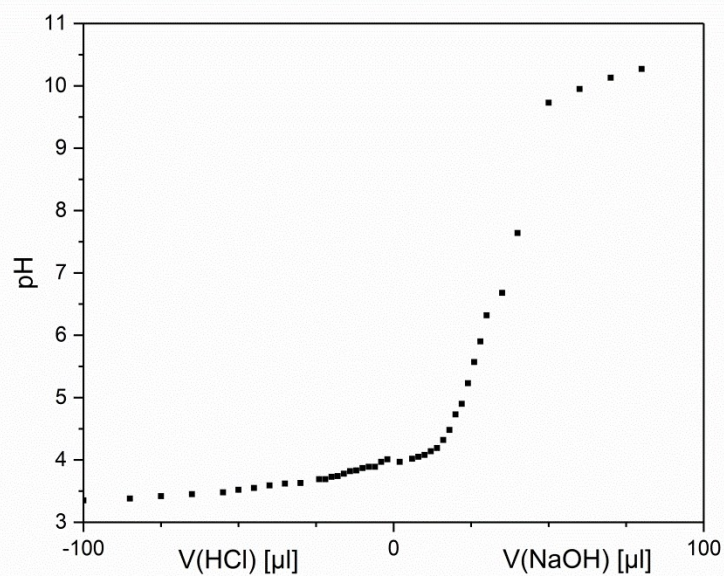
Supplementary Figure 3: DOSY spectra of TMPyP. Signals at 0.00, 0.59, 1.72 and 2.88 ppm correspond to the NMR standard DSS. The diffusion coefficient of DSS was $9.30 \text{ m}^2 \cdot \text{s}^{-1}$. The NMR signals at 6.90 and 7.41 ppm correspond to *p*-toluenesulfonate anion, which had a diffusion coefficient of $9.28 \text{ m}^2 \cdot \text{s}^{-1}$. The diffusion coefficient of the porphyrin cation of TMPyP was $9.65 \text{ m}^2 \cdot \text{s}^{-1}$. Signals at 8.92 and 9.26 ppm correspond to TMPyP cation. $c(\text{TMPyP}) = 1 \cdot 10^{-3} \text{ M}$ (in D_2O)



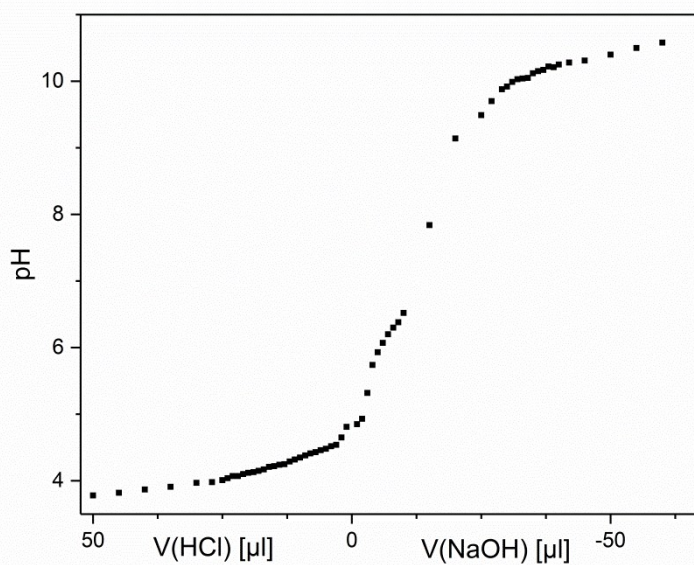
Supplementary Figure 4: DOSY spectra of eosin y. Signals at 0.00, 1.72 and 2.88 ppm correspond to the NMR standard DSS (signal at 0.59 ppm was too small to be displayed). The diffusion coefficient of DSS was $9.30 \text{ m}^2 \cdot \text{s}^{-1}$. The NMR signals at 6.61, 7.03, 7.13, 7.55, 7.61 and 7.77 ppm correspond to eosin y, which had a diffusion coefficient of $9.62 \text{ m}^2 \cdot \text{s}^{-1}$. $c(\text{eosin y}) = 5 \cdot 10^{-3} \text{ M}$ (in D_2O)



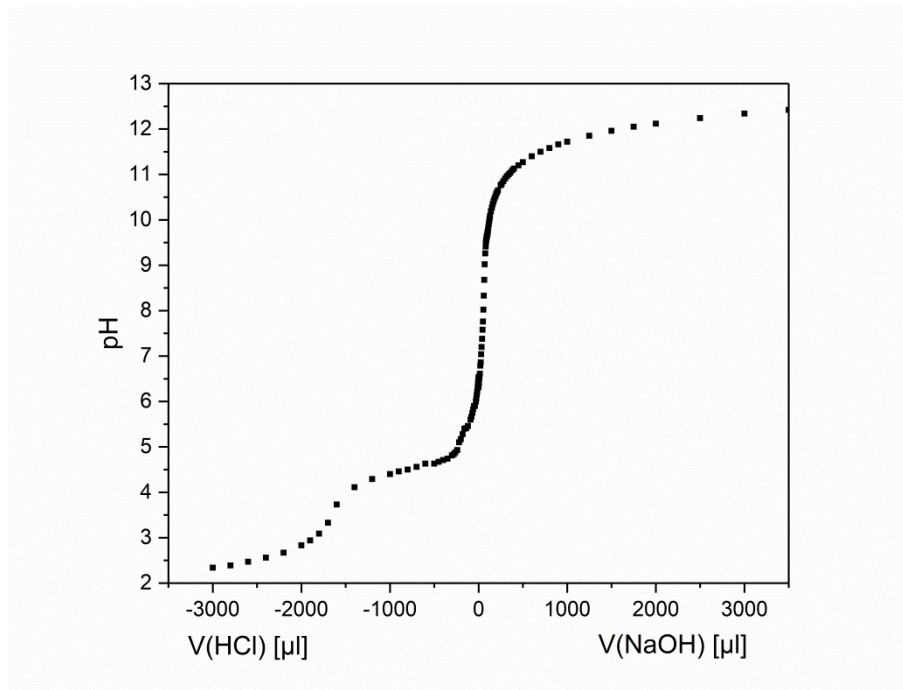
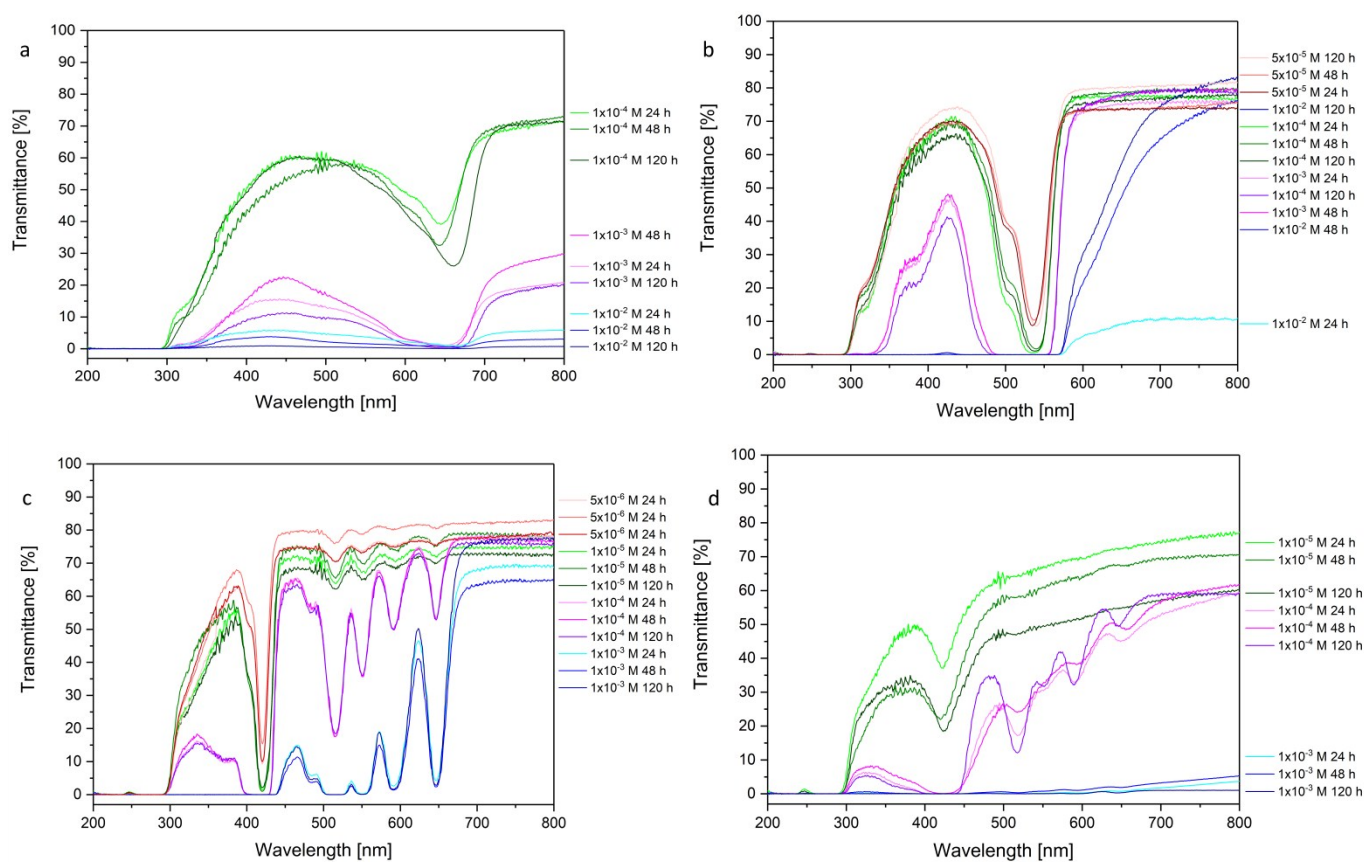
Supplementary Figure 5: Complete titration curve of TPPS₄ ($c(\text{TPPS}_4) = 2.3 \text{ mmol} \cdot \text{l}^{-1}$).



Supplementary Figure 6: Complete titration curve of methylene blue ($c(\text{methylene blue}) = 7.8 \text{ mmol} \cdot \text{l}^{-1}$).



Supplementary Figure 7: Complete titration curve of TMPyP ($c(\text{TMPyP}) = 1.6 \text{ mmol} \cdot \text{l}^{-1}$).

Supplementary Figure 8: Complete titration curve of eosin y ($c(\text{eosin y}) = 3.3 \text{ mmol} \cdot \text{l}^{-1}$).

Supplementary Figure 9: Transmittance of all hydrogels loaded for in Figure 3: a) methylene blue b) eosin y, c) TPPS4 and d) TMPyP

Supplementary Table 1: Rheological data of the hydrogel before and after loading of the photosensitizer. All data were recorded at 1 Hz.

	G^* [Pa]	G' [Pa]	G'' [Pa]	$\tan(\delta)$
Pure	$1.1 \cdot 10^5 \pm 2.1 \cdot 10^4$	$1.1 \cdot 10^5 \pm 2.1 \cdot 10^4$	$1.9 \cdot 10^3 \pm 2.6 \cdot 10^2$	$1.7 \cdot 10^{-2} \pm 1.5 \cdot 10^{-3}$
Methylene blue	$9.9 \cdot 10^4 \pm 1.3 \cdot 10^4$	$9.9 \cdot 10^4 \pm 1.3 \cdot 10^4$	$1.7 \cdot 10^3 \pm 3.5 \cdot 10^2$	$1.7 \cdot 10^{-2} \pm 1.5 \cdot 10^{-3}$
TMPyP	$1.2 \cdot 10^5 \pm 1.2 \cdot 10^4$	$1.2 \cdot 10^5 \pm 1.2 \cdot 10^4$	$1.8 \cdot 10^3 \pm 2.2 \cdot 10^2$	$1.5 \cdot 10^{-2} \pm 5.7 \cdot 10^{-4}$
Eosin Y	$1.3 \cdot 10^5 \pm 1.4 \cdot 10^4$	$1.3 \cdot 10^5 \pm 1.4 \cdot 10^4$	$2.1 \cdot 10^3 \pm 1.5 \cdot 10^2$	$1.7 \cdot 10^{-2} \pm 3.2 \cdot 10^{-3}$
TPPS ₄	$1.2 \cdot 10^5 \pm 4.0 \cdot 10^4$	$1.2 \cdot 10^5 \pm 4.0 \cdot 10^4$	$1.9 \cdot 10^3 \pm 1.5 \cdot 10^2$	$1.5 \cdot 10^{-2} \pm 1.4 \cdot 10^{-3}$