

Outstanding photocatalytic activity of new metalloporphyrins

Alina D. Oparina, Daria A. Polivanovskaia, Kirill P. Birin, Aslan Yu. Tsivadze

¹ Faculty of Chemistry, Lomonosov Moscow State University

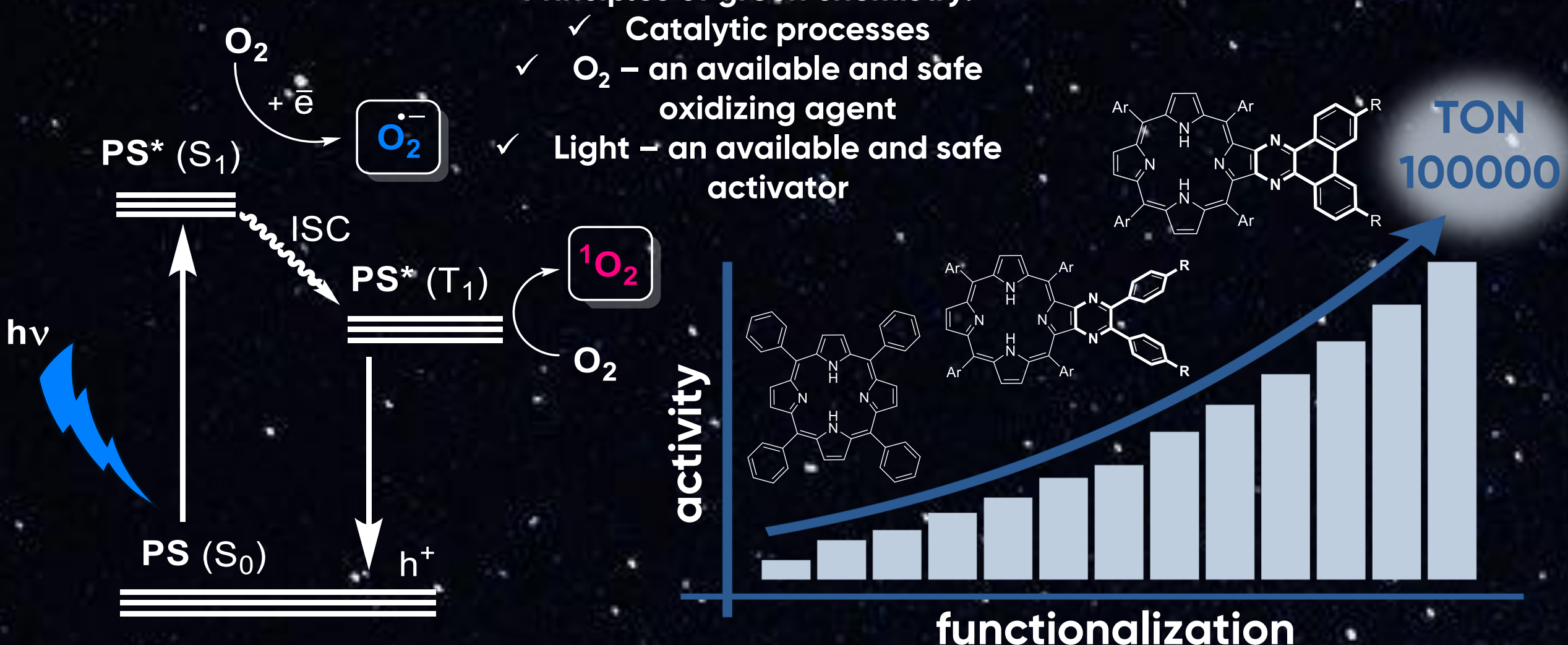
² Frumkin Institute of Physical Chemistry and Electrochemistry Russian Academy of Sciences

³ Kurnakov Institute of General and Inorganic Chemistry Russian Academy of Sciences

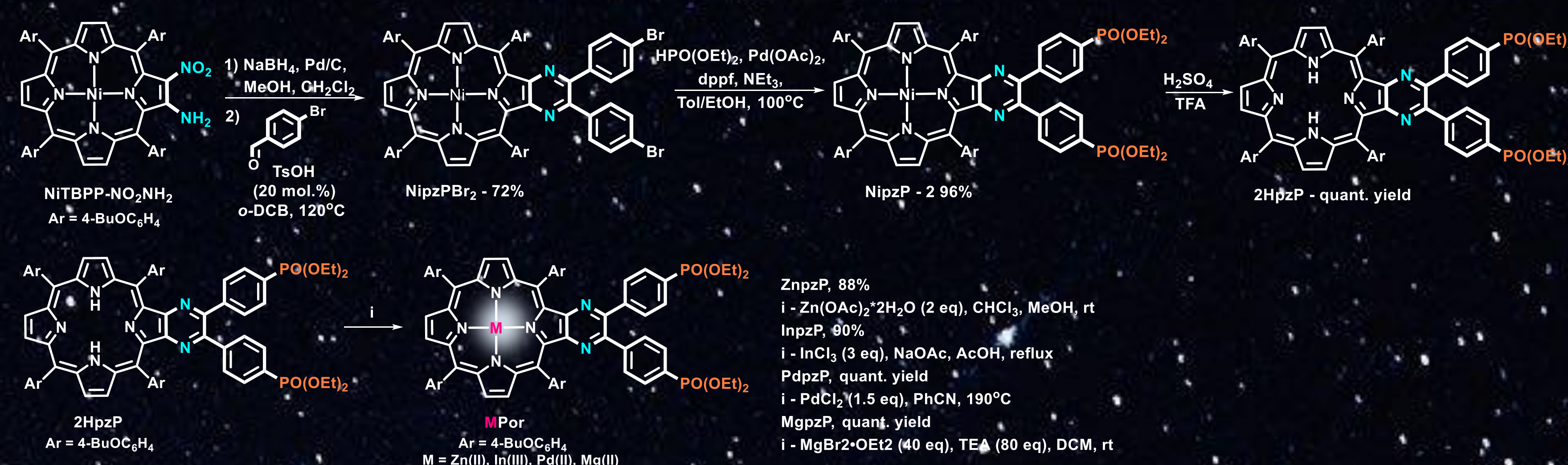
Porphyrins in photocatalysis

Principles of green chemistry:

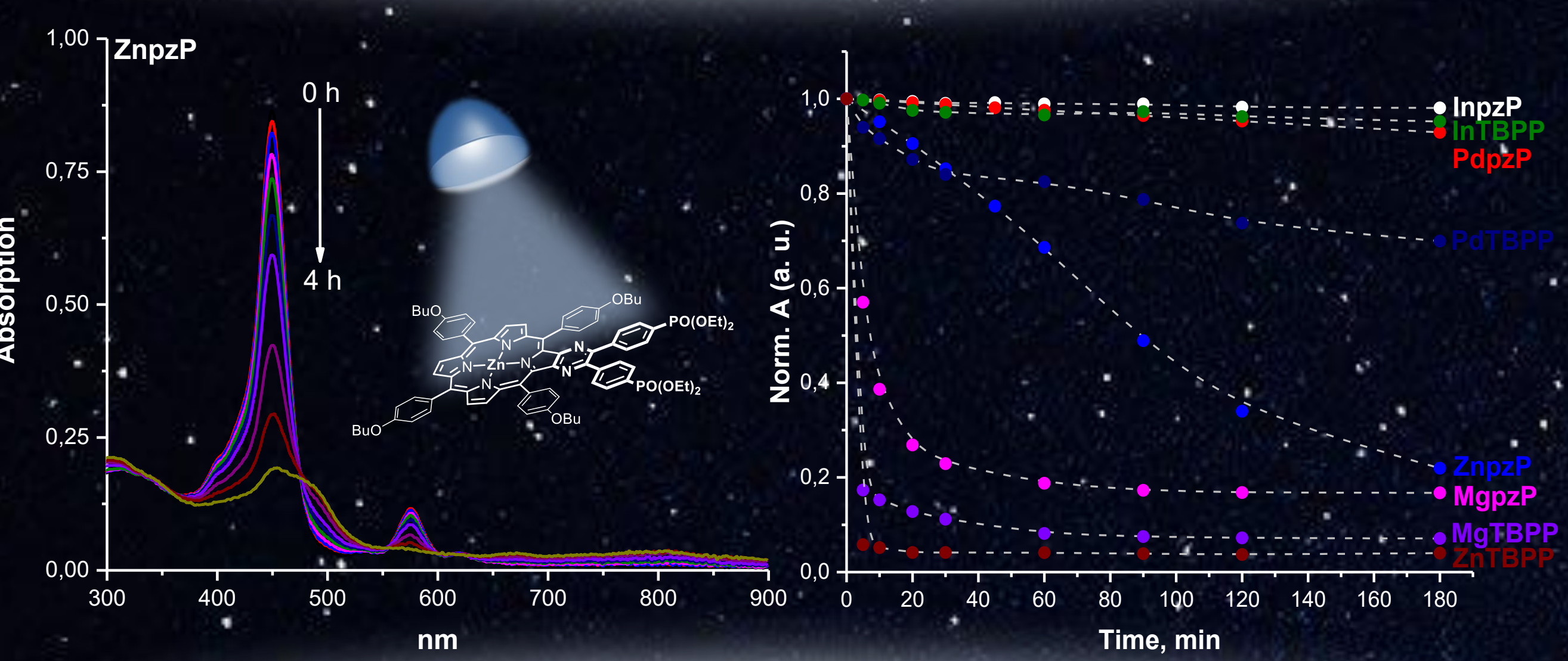
- ✓ Catalytic processes
- ✓ O₂ – an available and safe oxidizing agent
- ✓ Light – an available and safe activator



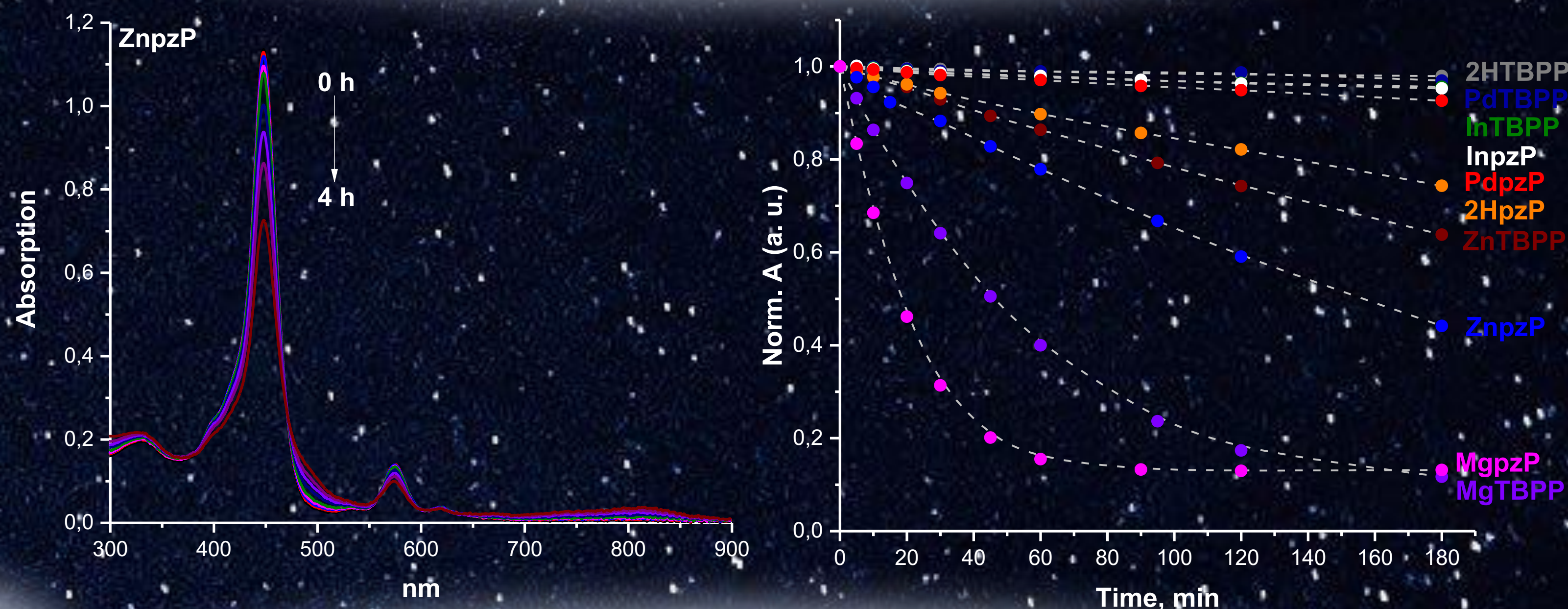
Synthesis of pyrazinoporphyrrinates



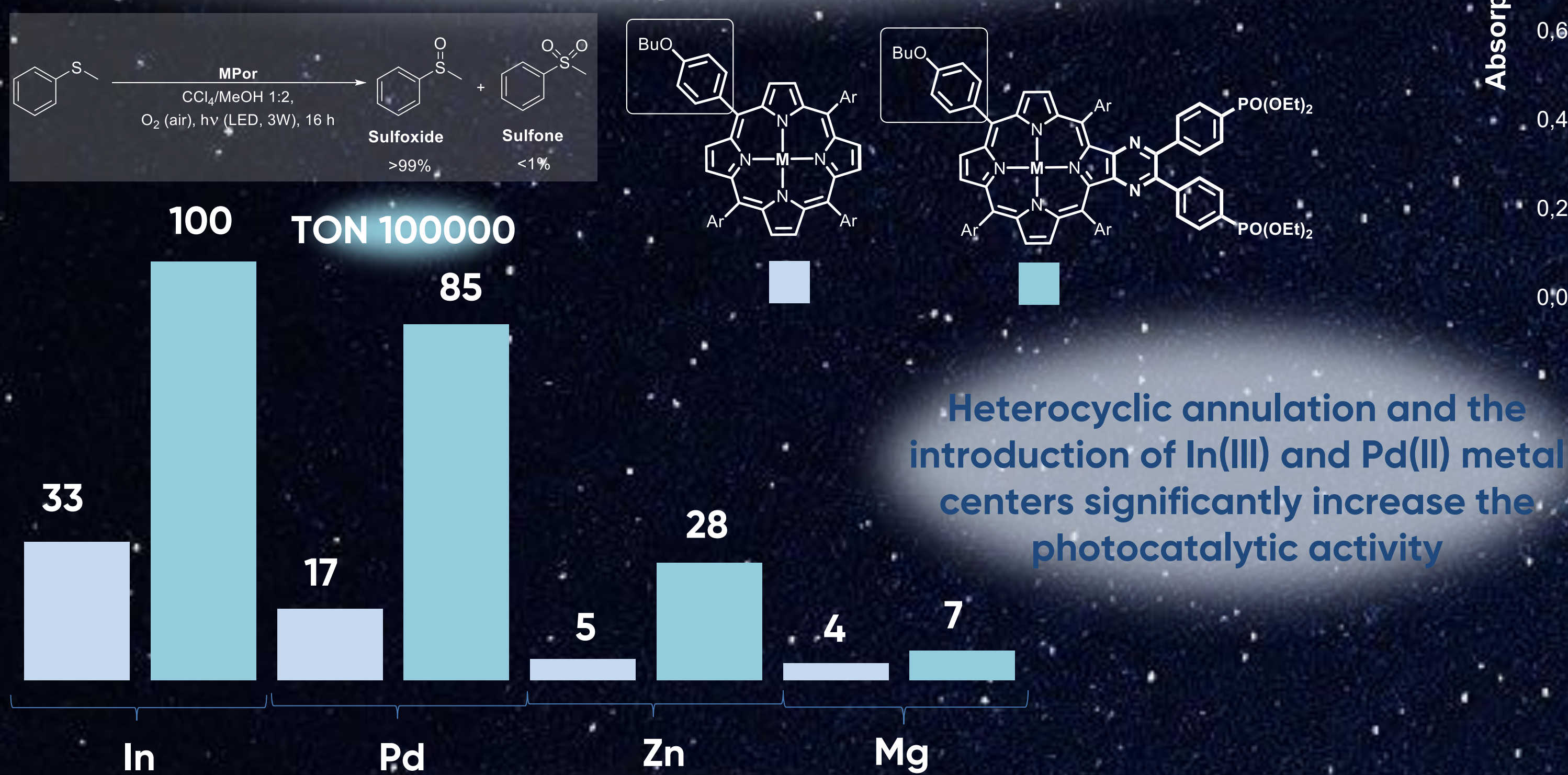
Photodegradation in CCl₄/MeOH 1:2



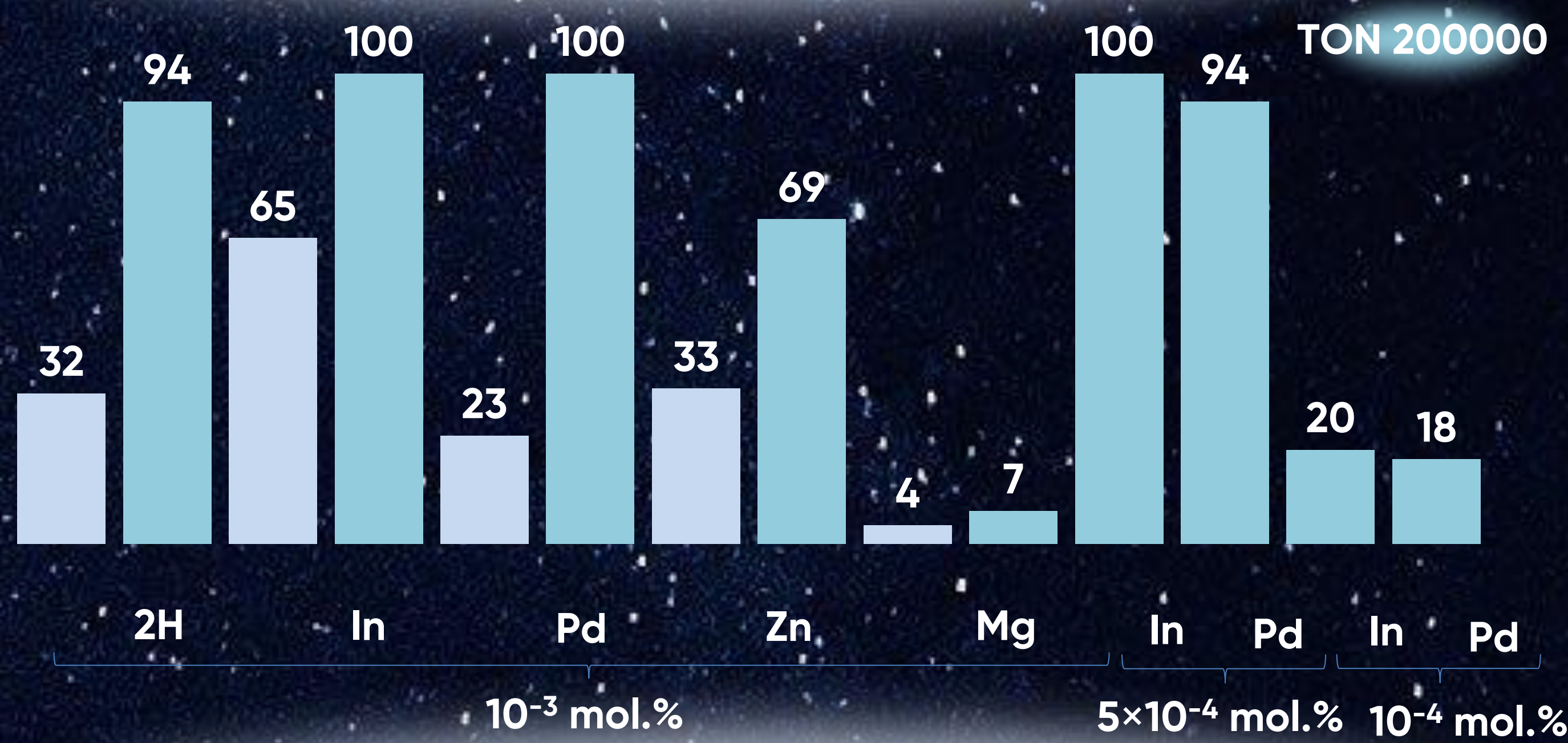
Photodegradation in Tol/EtOH 4:96



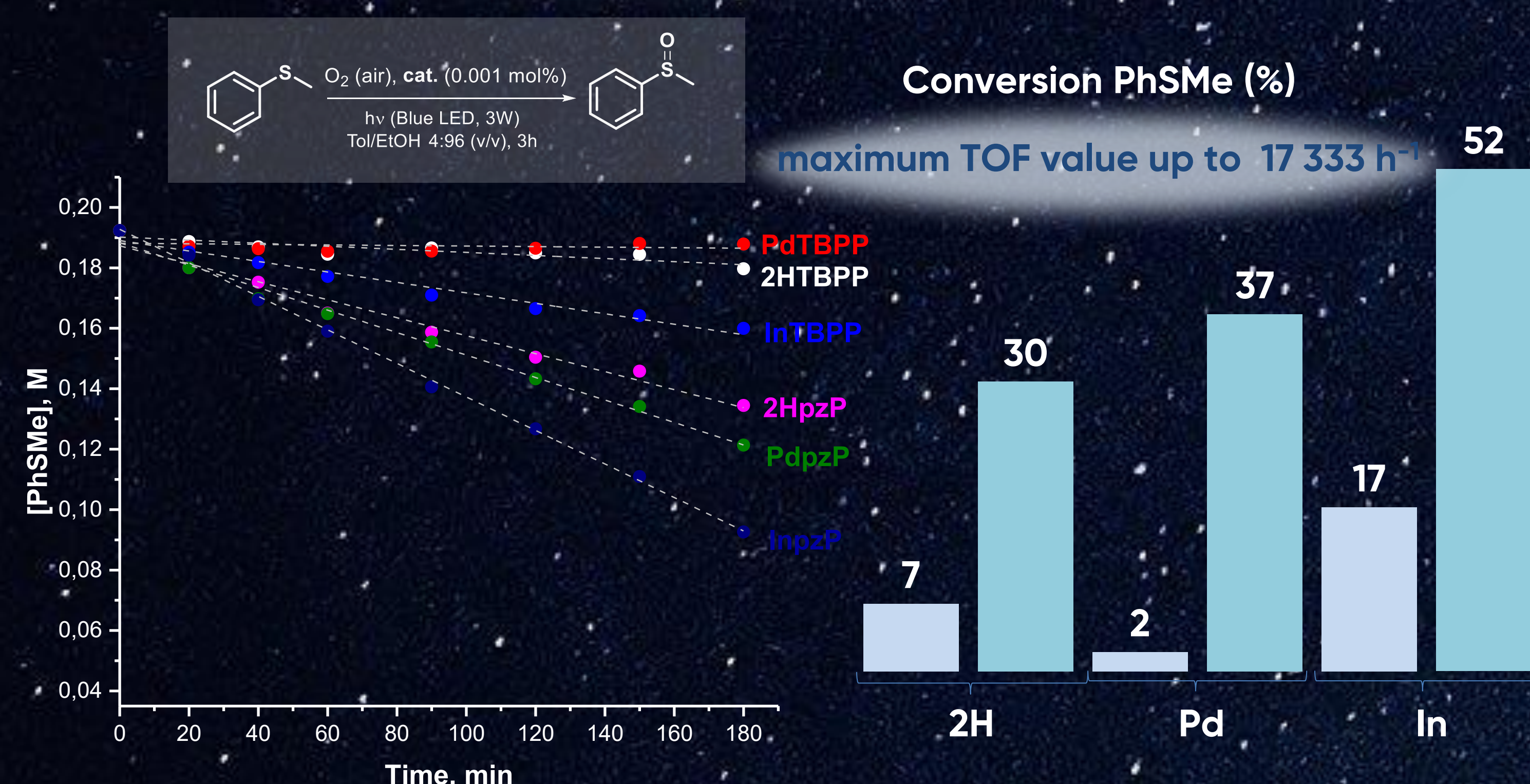
Photooxidation in CCl₄/MeOH 1:2



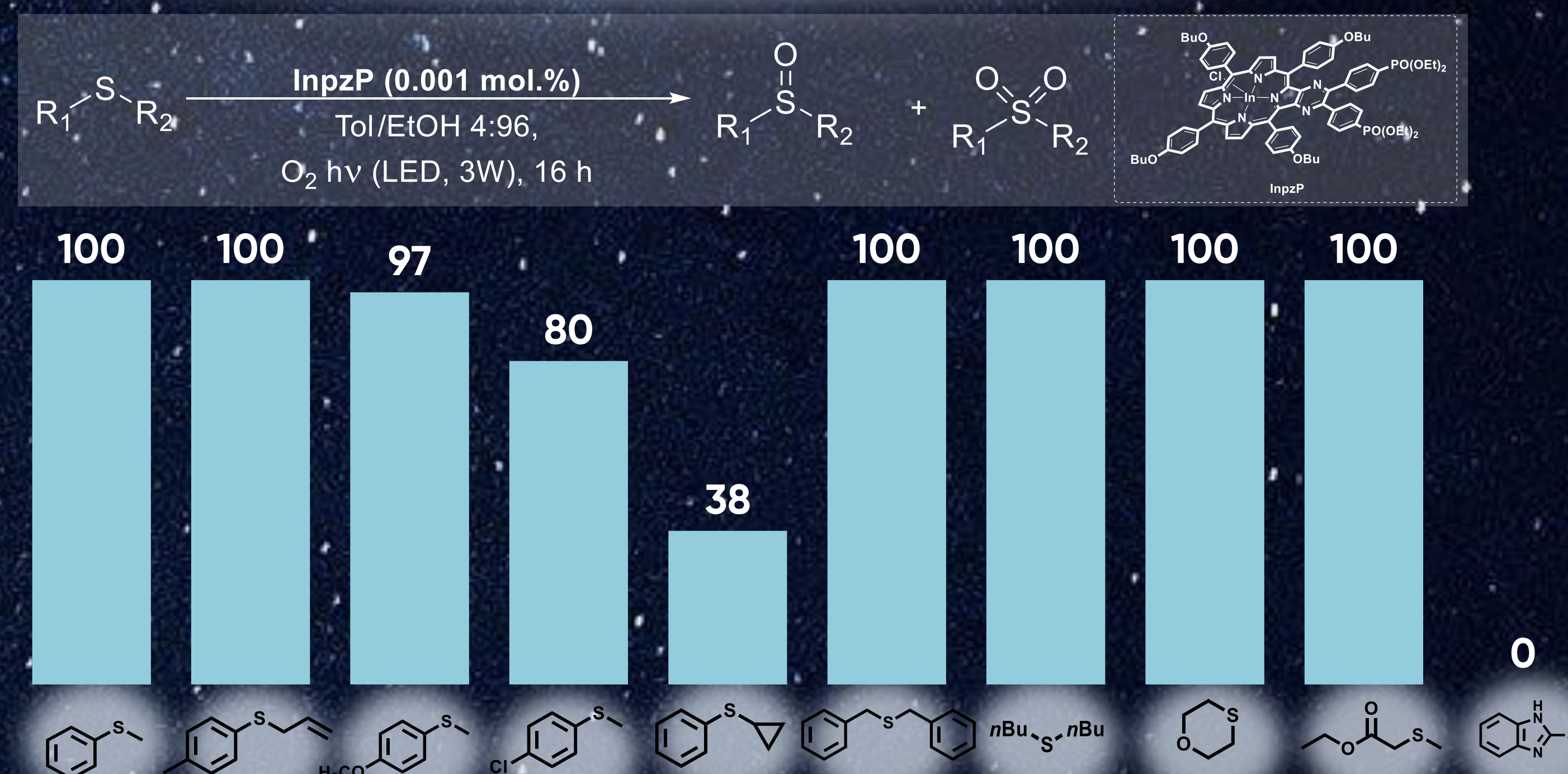
Photooxidation in Tol/EtOH 4:96



Kinetic curves c(t)



Photooxidation of organic sulfides



K _{eff} , M·min ⁻¹	MTBPP		MpzP	
	2H	Pd	In	Mg
	(8.98±0.58) × 10 ⁻⁵	(1.02±0.17) × 10 ⁻⁴	(1.73±0.30) × 10 ⁻⁴	(5.46±0.22) × 10 ⁻⁴