



PHOTOSENSITIZERS BASED ON PORPHYRIN DERIVATIVES AS A POTENTIAL PHOTODYNAMIC AGENT

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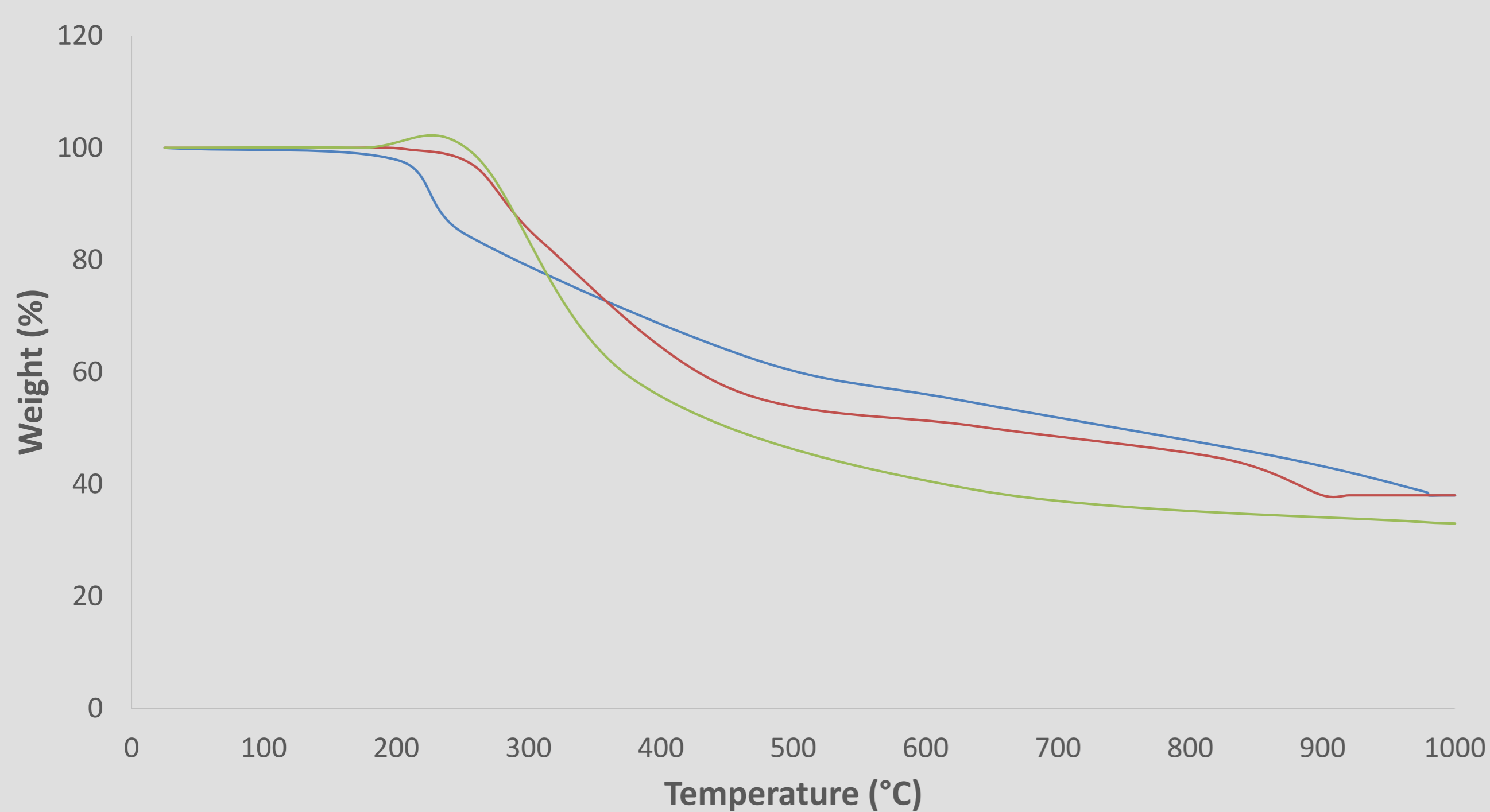
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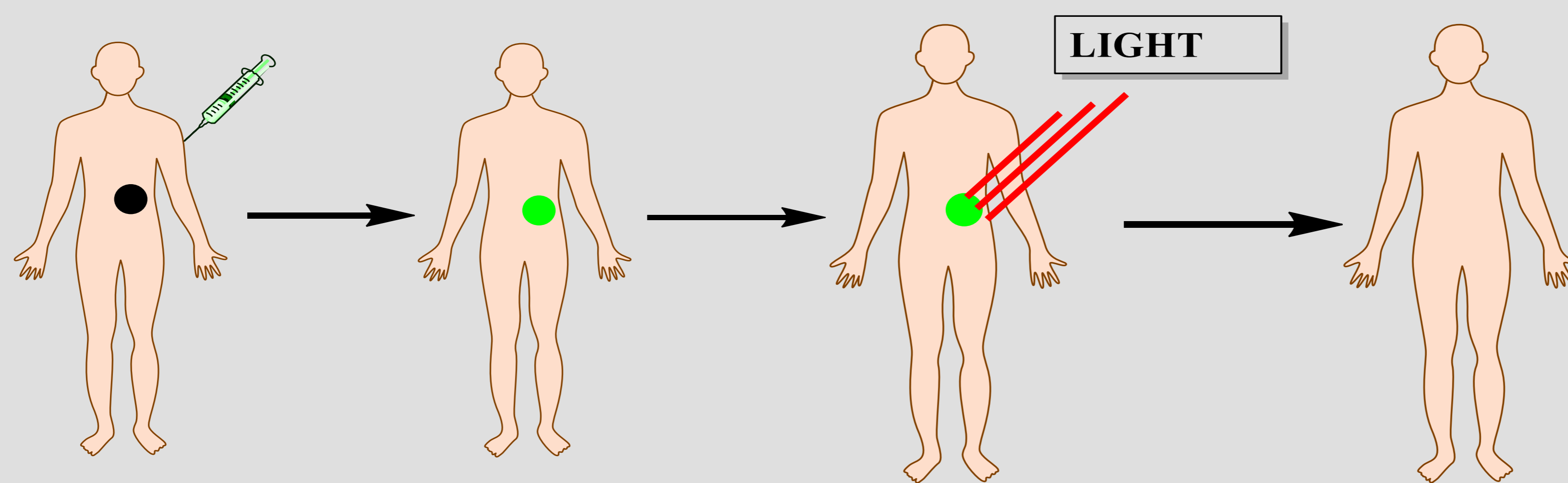
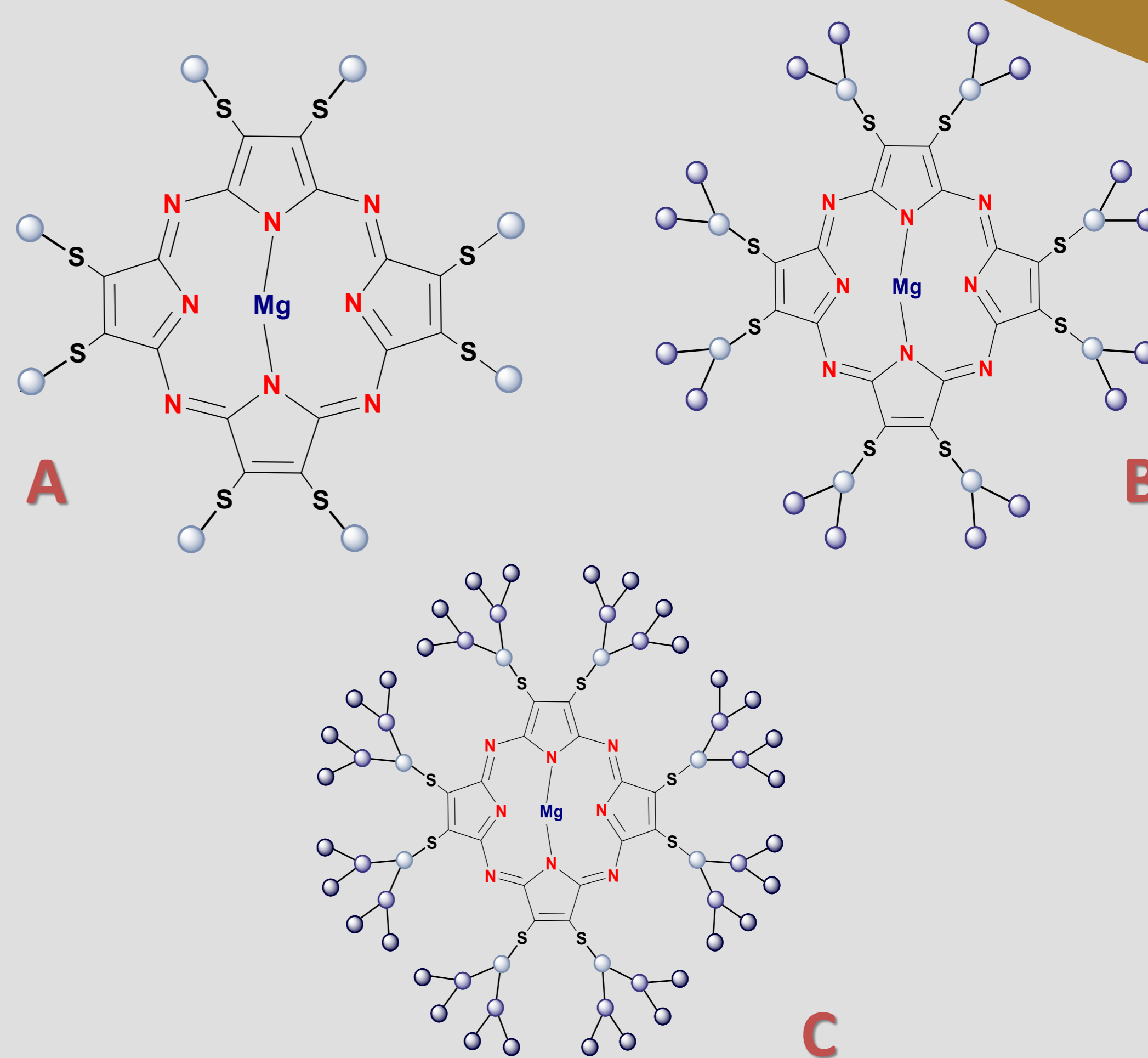
Introduction

Photodynamic therapy (PDT) is an emerging non-invasive technique for the treatment of cancer and non-oncological diseases. The interesting group of compounds for use in medicine are photosensitive compounds based on the porphyrin rings. There are used clinically as a photosensitizer for PDT. Photodynamic therapy is a widely used method of treatment of cancers characterized by much less side effects compared to standard therapy.

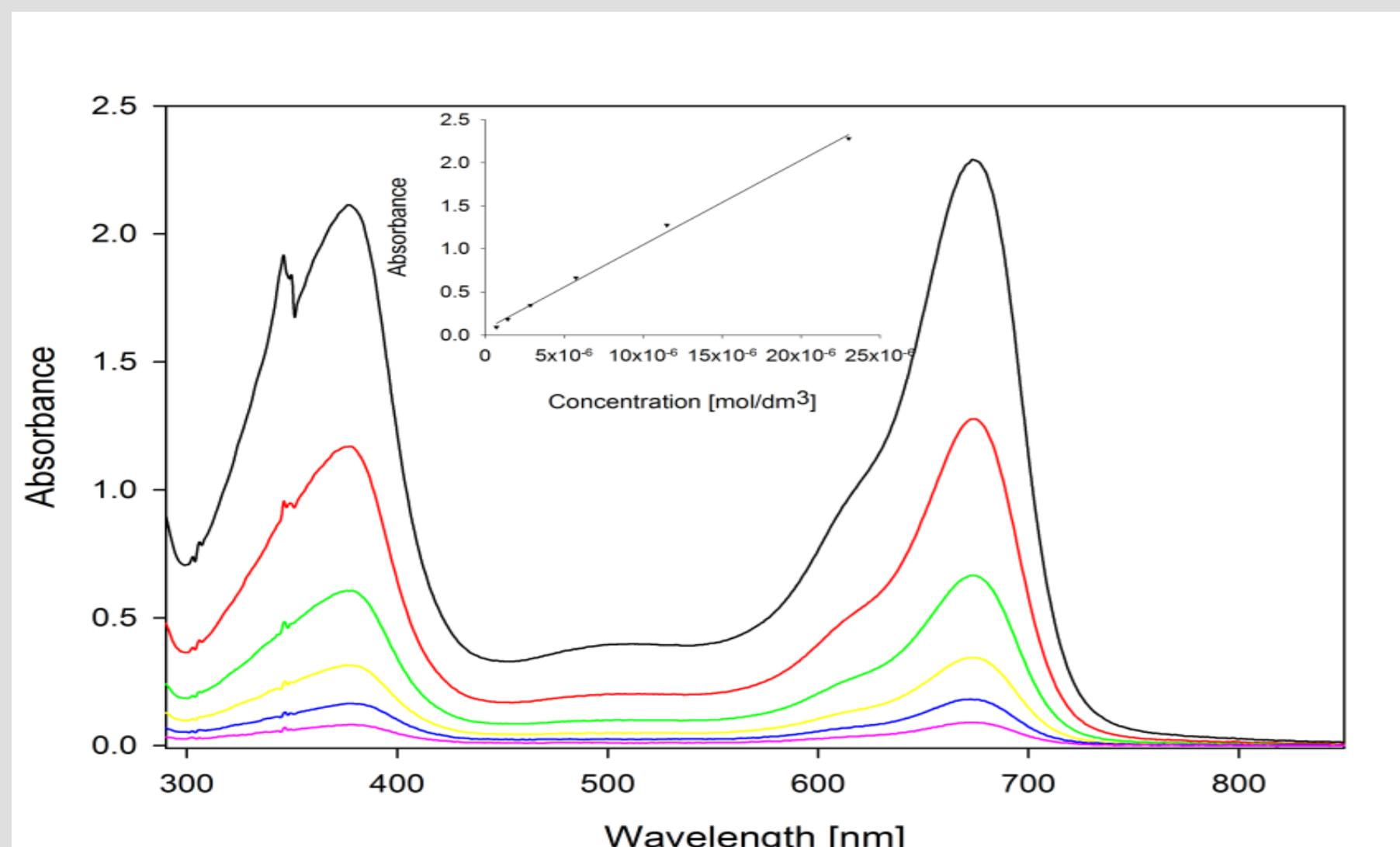
Thermal stability of the obtained porphyrins



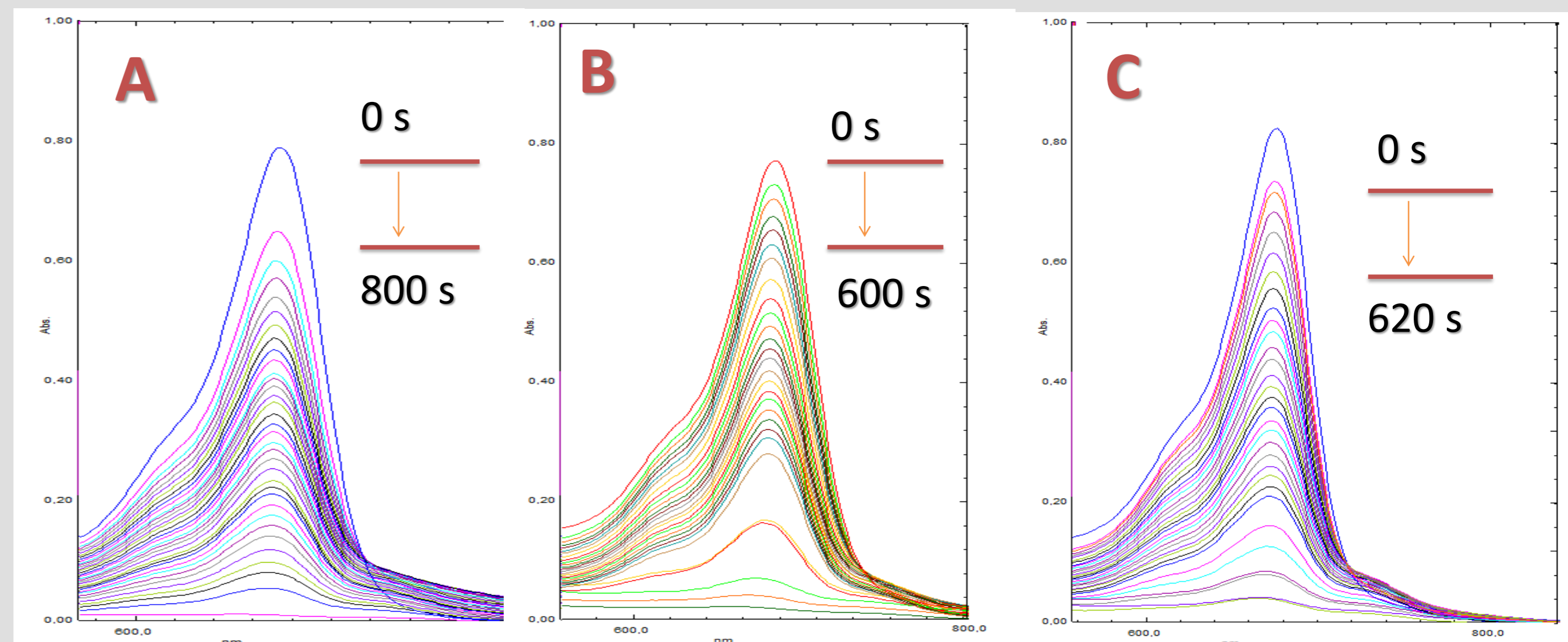
Porphyrin photosensitizers



Singlet oxygen generation



Photostability



Compound

$\Phi\Delta$

A 0.0093

B 0.0292

C 0.0185

Conclusions

The photosensitive compounds based on the rings porphyrin were synthesized and characterized. These molecules were also incorporated into biopolymeric films composed with chitosan. The amount of produced singlet oxygen at ambient temperature in aerobic conditions was also determined. Quantum yield of 0.027 was found for a compound and was compared with ZnPc ($\Phi\Delta$ 0,56 in DMF). Minimal changes in the Q band absorbance intensity after 540 s of irradiation indicate the photostability of the examined compound.

Acknowledgements

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