

## ERZSÉBET MERNYÁK



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## RESEARCH AREA

Semisynthetic transformations of natural products by modern organic chemistry methods. The reactions are carried out according to the principles of green chemistry, including transition metal catalysis. We also work on the preparation of fluorescent dyes (fluorophores) suitable for the fluorescent labelling of biomolecules or nature-inspired drug candidates. We investigate the potential application of the newly synthesized fluorophores as photodynamic agents, especially in photodynamic therapy of cancer.

## TECHNIQUES AVAILABLE IN THE LAB

Preparative and phytochemical techniques: extraction, distillation, column and thin layer chromatography. Analytical and preparative HPLC. NMR structural analysis.

## SELECTED PUBLICATIONS

**Mernyák, E.**, Kovács, I., Minorics, R., Sere, P., Czégány, D., Sinka, I., Wölfling, J., Schneider, G., Újfaludi, Z., Boros, I. et al. (2015) Synthesis of trans-16-triazolyl-13 $\alpha$ -methyl-17-estradiol diastereomers and the effects of structural modifications on their in vitro antiproliferative activities. **J. Steroid Biochem Mol Biol** 150 pp. 123, 12 p.

Jórárt, R., Laczkó-Rigó, R., Klement, M., Kóhl, G., Kecskeméti, G., Özvegy-Laczka, C., Mernyák, E. (2021) Design, synthesis and biological evaluation of novel estrone phosphonates as high affinity organic anion-transporting polypeptide 2B1 (OATP2B1) inhibitors. **Bioorganic Chemistry** 112 Paper: 104914, 12 p.

Traj P., Hazhmat Abdolkhalig, A., Németh A., Dajcs, S., Trisztán, Tömösi F., Lanisnik-Rizner T., Zupkó, I., **Mernyák, E.** (2021) Transition metal-catalyzed A-ring C–H activations and C(sp<sup>2</sup>)–C(sp<sup>2</sup>) couplings in the 13 $\alpha$ -estrone series and in vitro evaluation of antiproliferative properties. **J Enzyme Inhib Med Chem** 36: 1 pp. 895-902., 8 p.

Senobar Tahaei, SA., Kulmány, Á., Minorics, R., Kiss, A., Szabó, Z., Germán, P., Szebeni, GJ., Gémes, N., **Mernyák, E.**, Zupkó, I. (2023) Antiproliferative and Antimetastatic Properties of 16-Azidomethyl Substituted 3-O-Benzyl Estrone Analogs. **Int J Mol Sci** 24: 18 Paper: 13749, 16 p.)

Hlogyik, T., Laczkó-Rigó, R.,\* Bakos, É., Poór, M., Kele, Z., Özvegy-Laczka, C., **Mernyák, E.** (2023) Synthesis and in vitro photodynamic activity of aza-BODIPY-based photosensitizers. **Org Biomol Chem** 21: 29 pp. 6018-6027., 10 p.