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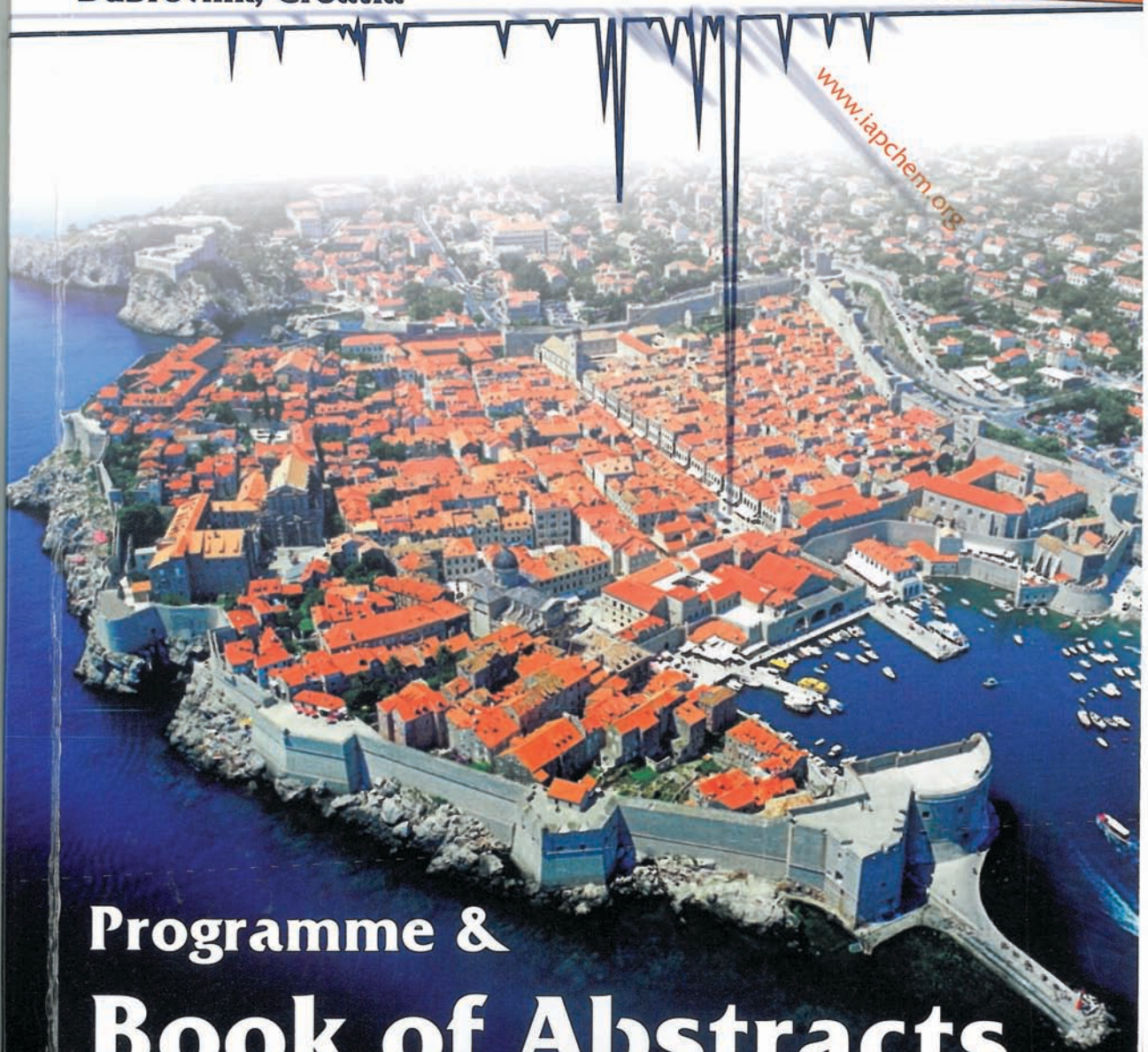

Programme & Book of Abstracts

PP 46

Human serum albumin binding of 2-[(carboxymethyl)sulfanyl]-4-oxo-4-arylbutanoic acids

Ilija N. Cvijetić, Dušan D. Petrović,* Tatjana Ž. Verbić,* Ivan O. Juranić,** Branko J. Drakulić**

Innovation Center, Faculty of Chemistry, University of Belgrade, Studentski Trg 16
**Faculty of Chemistry, University of Belgrade, Studentski Trg 16*
***Department of Chemistry-IChTM, University of Belgrade, Njegoševa 12, 11000 Belgrade, Serbia*

Title compounds (**Fig. 1**) exert antiproliferative activity toward human tumor cells and significant selectivity (tumor *vs.* healthy cells) *in vitro* [1]. Within the frame of physico-chemical profiling, human serum albumin (HSA) binding [2, 3] of some congeners is reported in this communication. As revealed from fluorescent spectroscopy with warfarin and ibuprofen as the binding site probes, the preferable binding site of compound **1** (**Fig. 1**, **R** = 4-*tert*-Bu), taken as an example, is Sudlow site I [4]. Static quenching mechanism was assumed. Binding constants (K_b) and the number of binding sites (n) are calculated according to Stern-Volmer's equation (Eq. 1, **Fig. 2**) and shown in **Table 1.**

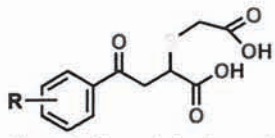

Figure 1. General structure of examined compounds

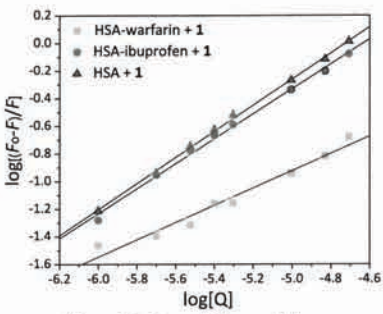

Figure 2. Stern-Volmer plots

$$\log\frac{F_0 - F}{F} = \log K_b + n\log[Q] \qquad \text{Eq. 1}$$

Table 1	logK_b (M)	K_b (M)	n
HSA+1	4.455	$2.85 \cdot 10^4$	0.943
HSA-ibupr+1	4.178	$1.51 \cdot 10^4$	0.902
HSA-warf+1	2.194	$1.56 \cdot 10^2$	0.623

Förster's energy resonance transfer (FRET) experiments were used to estimate the distance between Trp214 and compound **1**. Obtained results were further evaluated by molecular docking and molecular dynamics simulations.

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