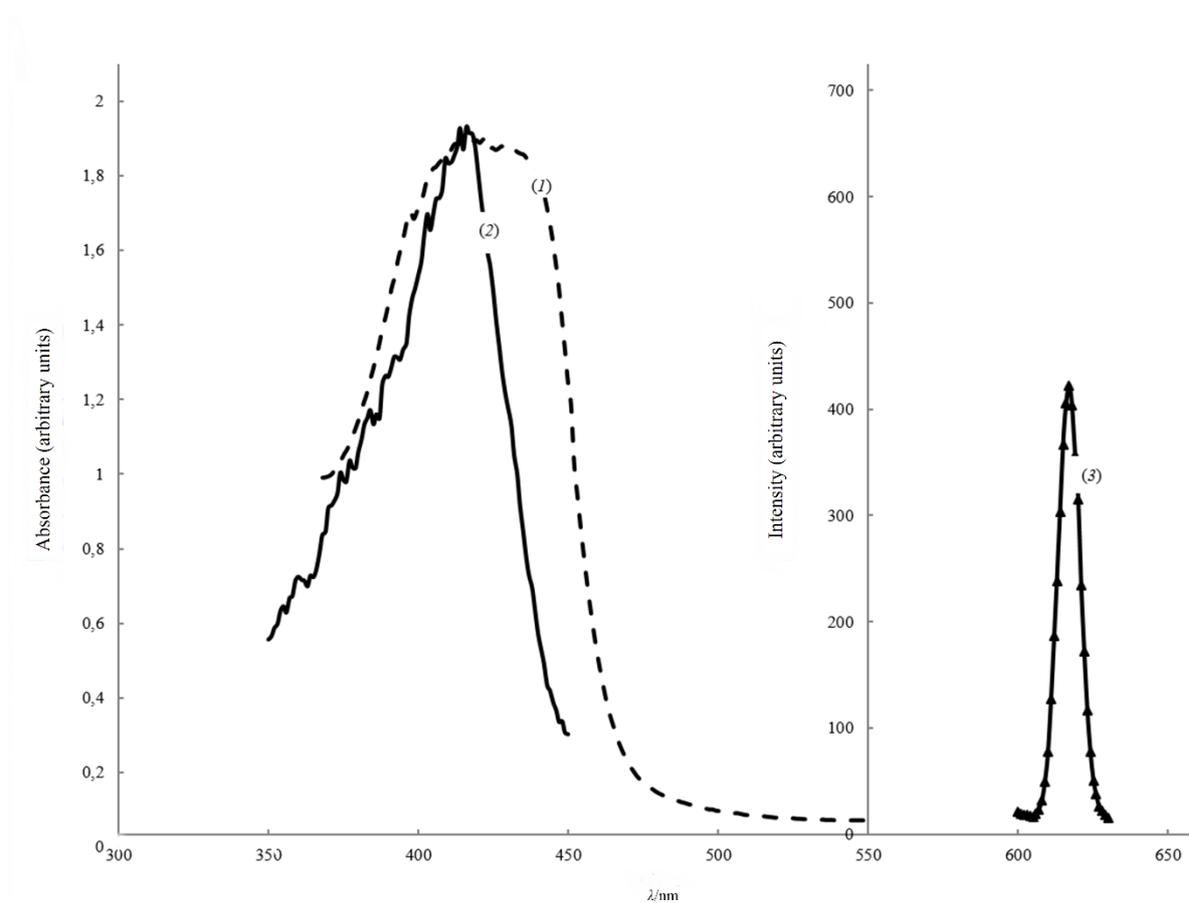


**Fluorescent ternary complexes of some biogenic amines and their metabolites with europium and oxytetracycline for applications in the chemical analysis**

**Maria I. Makedonskaya, Anastasiya M. Mikhailova, Irina A. Veselova,  
Junji Fukuda and Tatyana N. Shekhovtsova**



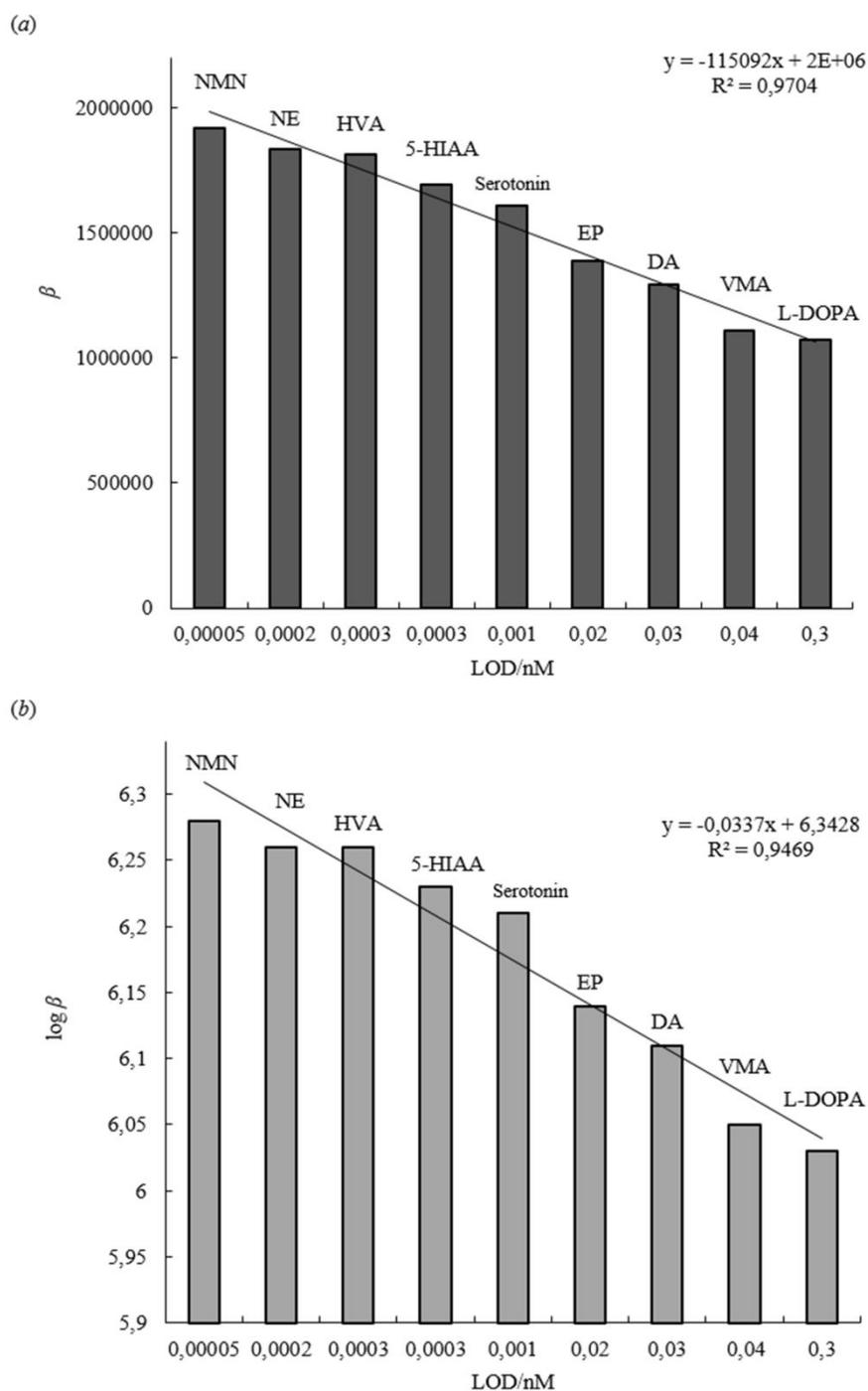
**Figure S1** The (1) absorption spectra, (2) fluorescence excitation and (3) emission spectra of  $\text{Eu}^{3+}$ -OTC-DA complex as the example [ $c(\text{Eu}^{3+}) = c(\text{OTC}) = 0.1 \text{ mM}$ ,  $c(\text{DA}) = 1.0 \text{ nM}$ ,  $\lambda_{\text{max}} = 416 \text{ nm}$ ,  $\lambda_{\text{ex}} = 416 \text{ nm}$ , and  $\lambda_{\text{em}} = 617 \text{ nm}$ ].

**Table S1** The relative quantum yields of fluorescence of Eu<sup>3+</sup>-OTC-BA/metabolite ternary complexes.

Eu <sup>3+</sup> -OTC- BA/metabolite	$\phi \pm \Delta\phi$
Eu <sup>3+</sup> -OTC-NMN	0.0026 ± 0.0003
Eu <sup>3+</sup> -OTC-NE	0.0022 ± 0.0001
Eu <sup>3+</sup> -OTC-HVA	0.0025 ± 0.0002
Eu <sup>3+</sup> -OTC-5-HIAA	0.0021 ± 0.0001
Eu <sup>3+</sup> -OTC-Serotonin	0.0022 ± 0.0001
Eu <sup>3+</sup> -OTC-EP	0.0023 ± 0.0002
Eu <sup>3+</sup> -OTC-DA	0.0020 ± 0.0001
Eu <sup>3+</sup> -OTC-VMA	0.0027 ± 0.0003
Eu <sup>3+</sup> -OTC-L-DOPA	0.0022 ± 0.0002

**Table S2** The stability constants of Eu<sup>3+</sup>-OTC-BA/metabolite complexes and other metal complexes of BA and their metabolites.

Complexes	Stability constants	Source
Eu <sup>3+</sup> -OTC- BA/metabolite	6.03 – 6.28	This work
La <sup>3+</sup> -EP	5.91	Ref. 27
Cu <sup>2+</sup> -EP	3.24	Ref. 29
Cu <sup>2+</sup> -NE	3.05	



**Figure S2** Dependence of the limits of detection (LOD) of biogenic amines and their metabolites on the stability constants of their complexes with europium and OTC: (a)  $\beta$  and (b)  $\log \beta$ .