

MINISTRY OF PUBLIC HEALTH OF UKRAINE  
NATIONAL UNIVERSITY OF PHARMACY

**TOPICAL ISSUES  
OF NEW DRUGS DEVELOPMENT**

**Vol. 1**

April 21, 2016  
Kharkiv

Kharkiv  
NUPh  
2016

## USE OF RAMAN SPECTROSCOPY TO IDENTIFY THE PARACETAMOL

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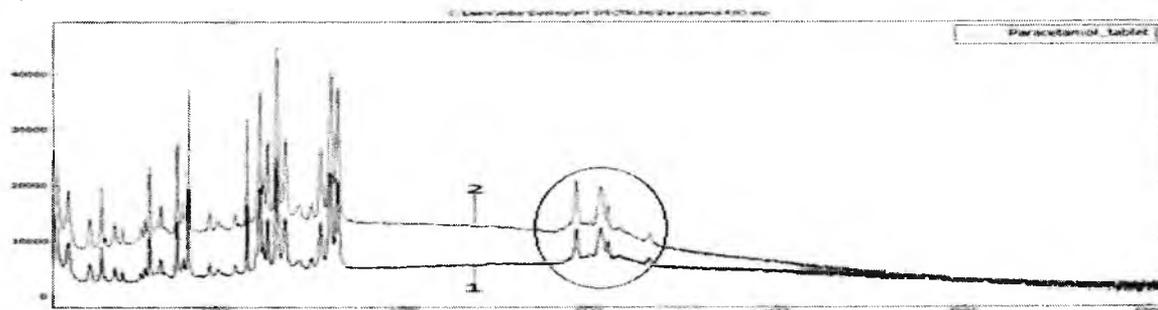
**Introduction.** At the present time the Raman spectroscopy is one of the promising direction in pharmaceutical practice. Raman spectroscopy is the method of study the vibrational, rotational, and other low-frequency modes of the tested substance in the range from 100 to 4000  $\text{cm}^{-1}$ , based on the phenomenon of inelastic (Raman) scattering of monochromatic light in the visible, near UV or near-IR.

**Aim.** Develop a new methodology for assessing the quality indicators of medicines on the basis of Raman spectroscopy, and substantiate the significance of its implement into practice of pharmaceutical analysis.

**Materials and methods.** For obtaining Raman spectrum is used the device Raman spectrometer, which is produced by US company «Enhanced Spectroscopy» of the brand «R532». The measurement was carried out at room temperature.

The object of the analysis were paracetamol tablets. For studying the spectrum of the drug analysis was conducted with its working standard sample (Hebei Jiheng (Group) Pharmaceutical CO., LTD., China). The data is transmitted from the device to a computer via a USB port.

**Results and discussion.** This study shows that the Raman spectrum of the tablet paracetamol appropriate of its working standard sample. Their characteristic peaks is situated (2926, 3061, 3322  $\text{cm}^{-1}$ ) in the same area as the standard of paracetamol (Fig.1).



*Figure. 1- spectrum of the standard sample; 2-spectrum tablets.*

**Conclusion:** For the first time were obtained Raman spectra of a standard sample paracetamol. It has been found that in Raman spectrum of the paracetamol tablets there are peaks characteristic for its working standard sample. The obtained data can be used in the pharmaceutical industry for the verification of cleaning equipment process in the manufacture paracetamol.