

**ABSTRACT****Validation Method UV Spectrophotometry Derivative and Individual Absorption of Paracetamol and Ibuprofen Mixtures in Tablet Simulation**

Two simple spectrophotometric methods have been developed for simultaneous determination of ibuprofen and paracetamol in tablet simulation. Ethanol (95%) was used as solvent. The first method was individual absorption which applied for paracetamol, whereas the second method was derivative that used for either paracetamol or ibuprofen. In the case of paracetamol, the wavelengths selected were set at 249.2 nm, 269.3 nm, 277.2 nm, 284.1 nm for individual absorption, first, second and third derivative, respectively. Wavelength selected was set at 248.1 nm for first derivative of ibuprofen. All methods shared good linearity with coefficient correlation ( $r$ ) ranging between 4.9 and 11.5  $\mu\text{g/ml}$  for paracetamol and 6.5 – 12.2  $\mu\text{g/ml}$  for ibuprofen. The accuracy and precision of the methods were determined and validated. All the methods show good recovery ranging between 98% and 102% with RSD less than 2%. All methods were found to be simple, rapid, specific, precise and accurate and can be applied for determination of paracetamol and ibuprofen in tablet simulation.

Keywords : Paracetamol, ibuprofen, UV spectrophotometry, individual absorption method, derivative method

