



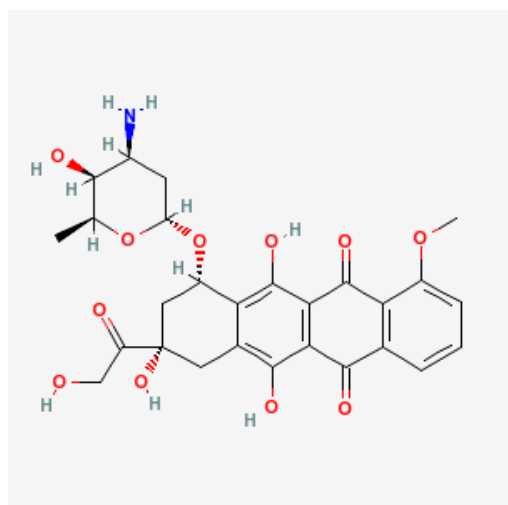
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## Electrophoretic behavior of doxorubicin

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### Abstrakt

Doxorubicin (DOX) belongs to the group of anthracycline antibiotics with very effective anticancer properties. In this work, the DOX behavior in capillary electrophoresis was investigated. Electrophoretic mobilities in of the background electrolyte (pH range from 3 to



11) were determined in the range from  $16.3$  to  $-13.3 \times 10^{-9} \text{ m}^2 \cdot \text{V}^{-1} \cdot \text{s}^{-1}$ . The behavior of the analyte in various environments is one of the key aspects that have to be considered prior to analysis by capillary electrophoresis. Analysis by separation methods such as capillary electrophoresis with laser-induced fluorescence detection may provide valuable information on the presence of various components, contaminations or even analyte species in the studied solution. Due to the complex structure of DOX and due to the presence of several functional groups, DOX may occur as a cation, anion, zwitterion and/or neutral molecule depending on the environment. The fluorescence properties of DOX are strongly dependent on the environment and the

increasing pH as well as the presence of water causes the fluorescence quenching. Using CE, the electrophoretic mobility of DOX as well as the pI was calculated.

**24. 09. 2014, od 16:00**

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