

## A Fluorescence Life-time Study of the Drug Delivery System Based on HPMA Copolymers

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Polymer drug carriers based on HPMA copolymers have been studied extensively over the past few years [1,2], to understand the behavior and shape of the copolymers in dilute solutions. However, there is a lack of knowledge on the behavior of these drug carriers in real human blood environment.

We use HPMA copolymers labeled with fluorescent dyes, which are dissolved in a solution of human serum albumin (HSA). This facilitates the determination of their size by fluorescence life-time correlation spectroscopy (FLCS). Compared with FCS, a separate autocorrelation function is calculated in FLCS for each fluorescent component determined by its life-time, which enables an easier separation of different contributions.

[1] S. K. Filippov, et al., *Biomacromolecules*, 2012, 13 (8), 2594–2604

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