Answer to the review of Dr. Gyula Tolnai

Author's gratitude: *The author is grateful to the reviewer Dr. Gyula Tolnai for his valuable suggestions and appreciable remarks. Despite of busy schedule, the reviewer has kindly finished the reviewing within short time helping me to improve my thesis and I am thankful for that.*

Questions

I have two main questions to the author:

1) In the optimized process the mean size of PLGA/magnetic nanoparticles was between 100 and 200 nm. In contrast the individual particles have much smaller size around 20 nm which can be seen in the transmission electron microscopy image (p 44). Is it possible to encapsulate the individual particles or not?

Answer: *Individual magnetite particle size is indeed 10-20 nm, however, it is not possible to microencapsulate them individually, since they have a strong tendency to aggregate because of their high surface area. Although they are covered by oleic acid against aggregation, it seems it is removed from their surface during this process.*

2) The values of zeta potential of poloxamer-modified PLGA/NP's are very surprising (p 76). It would be necessary to show the measured zeta potential curves. Both the tendency of the changes and the very small value of standard deviation is unexpected. How to interpret the increased negative value of zeta potential when the stabilization capacity of poloxamer taking into consideration?

Answer: *The value of zeta potential of poloxamer-modified PLGA/NPs is strange to me as well. To be honest it is not completely clear for us, how non-ionic poloxamer caused such increase in negative value of zeta potential. After studying significant number of published papers and books, I can assume that complexity of our system was the main reason behind this unexpected result.*

Veszprém, 23 September, 2014

Quazi Tanminul Haque Shubhra