Table supplementary 1: Optimization of Bovine Serum Albumin loading into alginate shell of the particle.

| Run | BSA concentration (mg/ml) | pH   | Particle shape after spraying in calcium chloride |
|-----|---------------------------|------|-------------------------------------------------|
| 1   | 1                         | 3    | Tailed shaped                                   |
| 2   | 1                         | 5.5  | Tailed shaped                                   |
| 3   | 0.5                       | 3    | Tailed shaped                                   |
| 4   | 0.5                       | 5.5  | Tailed shaped                                   |
| 5   | 0.25                      | 3    | Tailed shaped                                   |
| 6   | 0.25                      | 5.5  | Tailed shaped                                   |
| 7   | 0.15                      | 3    | Tailed shaped                                   |
| 8   | 0.15                      | 5.5  | Round shaped                                    |

Figure supplementary 1: Non-cropped SDS-PAGE gel of the whole (90%) and diluted (10%) human plasma proteins obtained from microparticles (M-90 and M-10) and nanoparticles (N-90 and N-10).