

## *Supplementary Material*

# **Application of Aqueous Two-phase Separation for the Selective Purification of Mono-PEGylated Human Serum Albumin Derivatives: Influence of Process Parameters and PEGylation Reagent Size**

**Salem Alkanaimsh <sup>1\*</sup>, Osama A. Al-Rashed <sup>1</sup>, Mohamed Shaaban <sup>2</sup>**

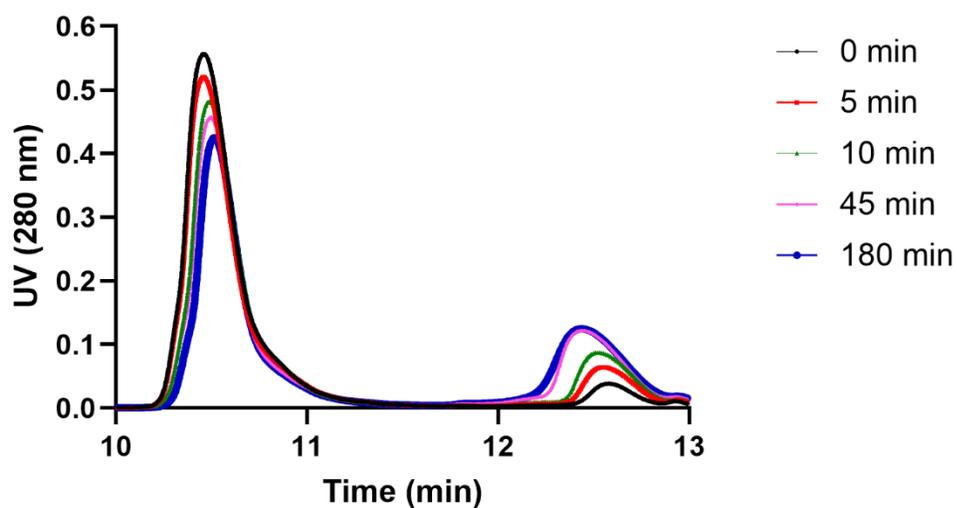
<sup>1</sup>Department of Chemical Engineering, College of Engineering and Petroleum, Kuwait University, P.O. Box 5969, Safat, Kuwait City 13060, Kuwait (s.alkanaimsh@edu.kw, ORCID-0000-0001-6266-4863; osama.alrashed@ku.edu.kw).

<sup>2</sup>Petroleum Refining & Petrochemical Research Center, College of Engineering and Petroleum, Kuwait University, P.O. Box 5969, Safat, Kuwait City 13060, Kuwait (mshaaba@gmail.com; m.shaaban@ku.edu.kw; Orcid -0000-0001-9281-2505).

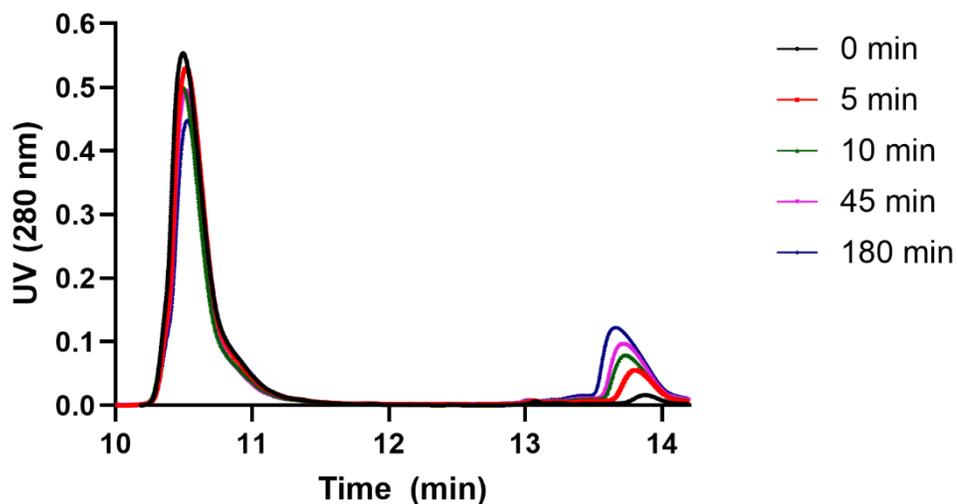
**\* Correspondence:**

s.alkanaimsh@edu.kw.

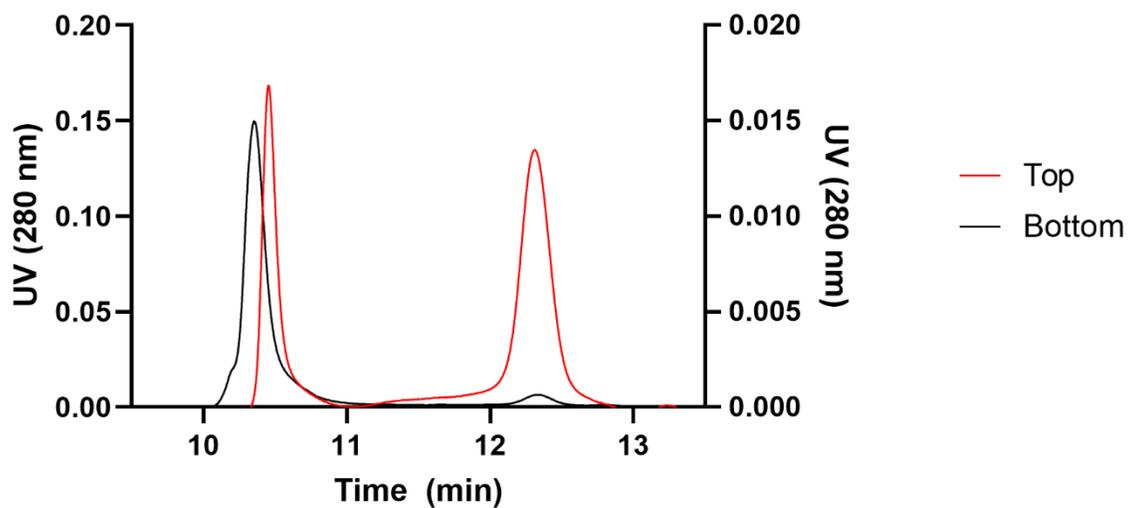
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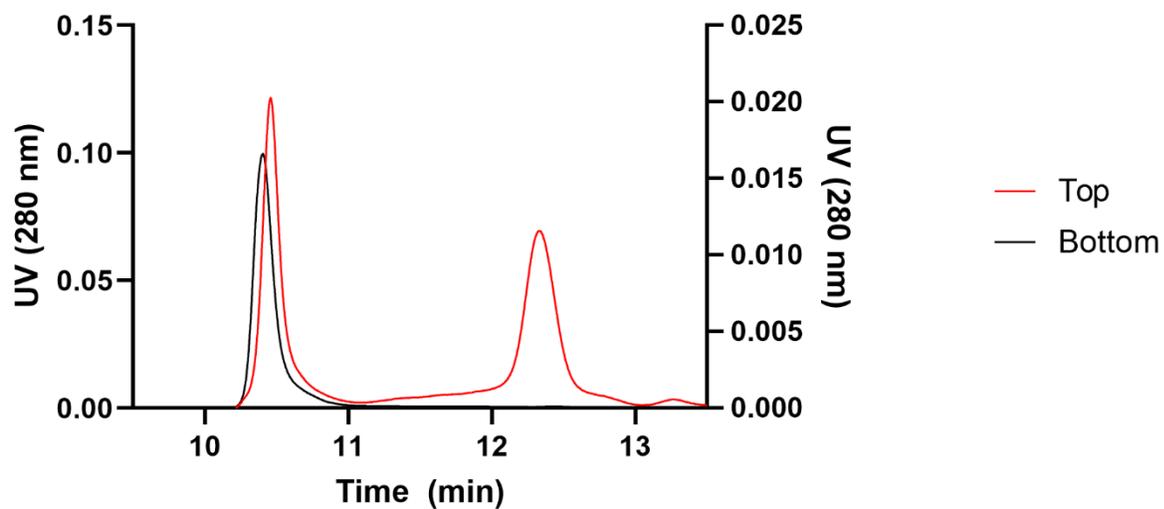
**Figure S1.** Kinetic analysis of the PEGylation reaction of HSA and 20 KDa methoxy PEG maleimide. The evolution of the concentrations was monitored using RP-UPLC at 280 nm.



**Figure S2.** Kinetic analysis of the PEGylation reaction of HSA and 40 kDa methoxy PEG maleimide. The evolution of the concentrations was monitored using RP-UPLC at 280 nm.



**Figure S3.** Chromatograms of the top and bottom phases after performing ATPS at a TLL of 45 (w/w) % and  $V_r$  of 1.



**Figure S4** Chromatograms of the top and bottom phases after performing ATPS at a TLL of 20 (w/w) % and  $V_r$  of 2.5 and including 15 (w/w) % NaCl.