Supplementary information for

Coupling Multi-Angle Light Scattering to Reverse-Phase Ultra-High-Pressure Chromatography (RP-UPLC-MALS) for the characterization of monoclonal antibody

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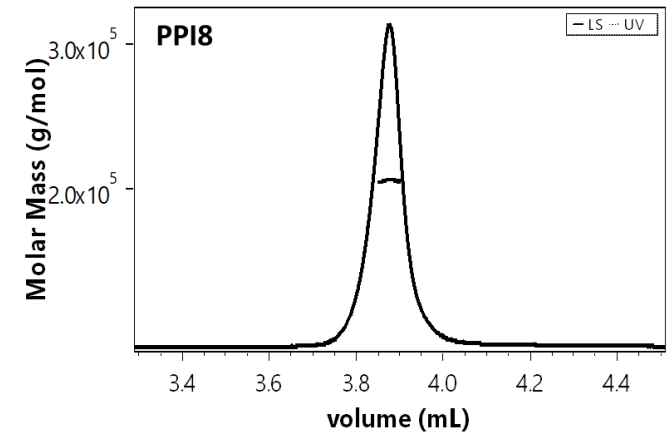
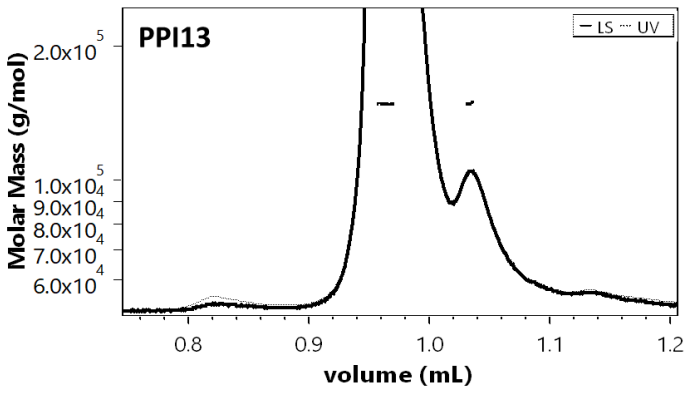
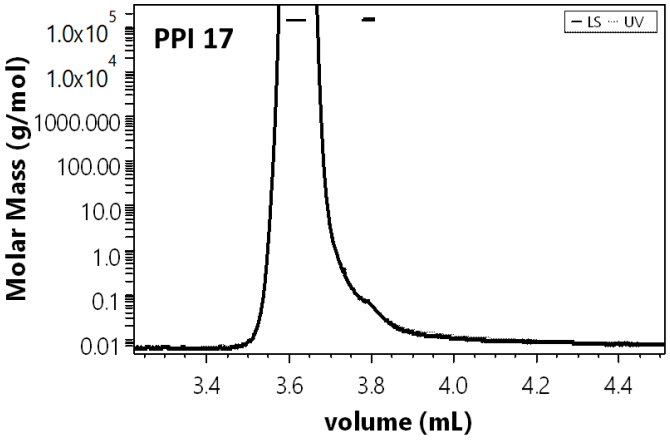
The file includes:

Supplementary information

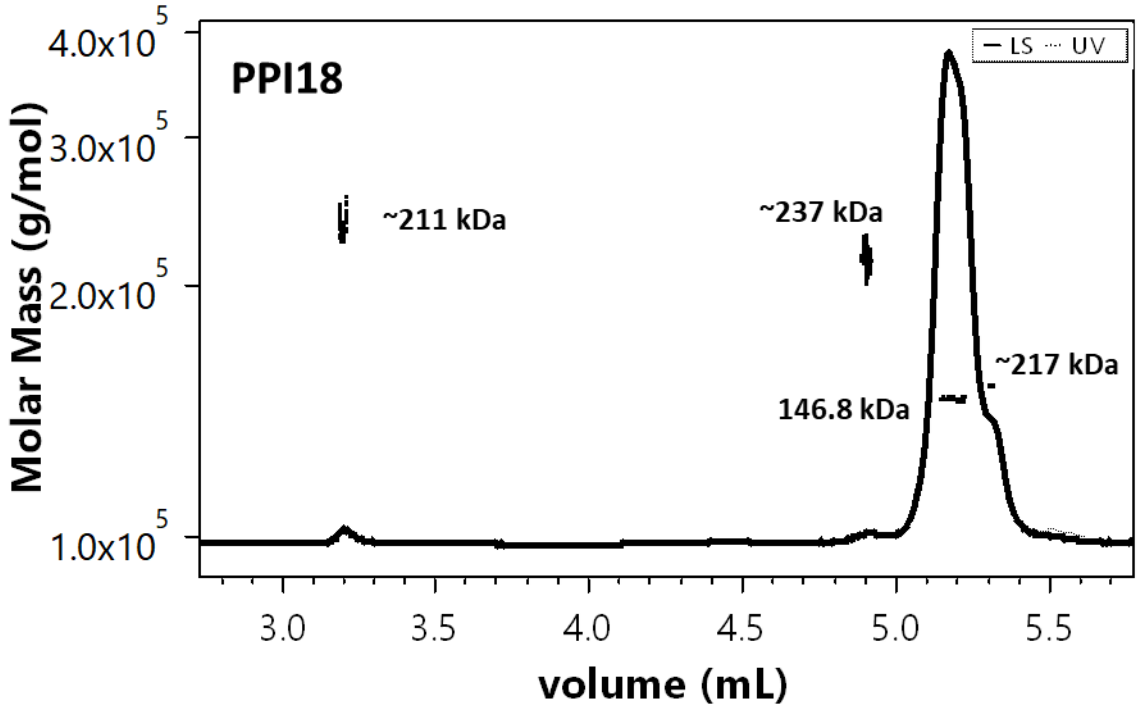
SI 1. RP-UPLC-MALS of PPI-8, PPI-13 & PPI-17. MALS results confirmed the absence of oligomers for PPI-8, PPI-13 and PPI-17.



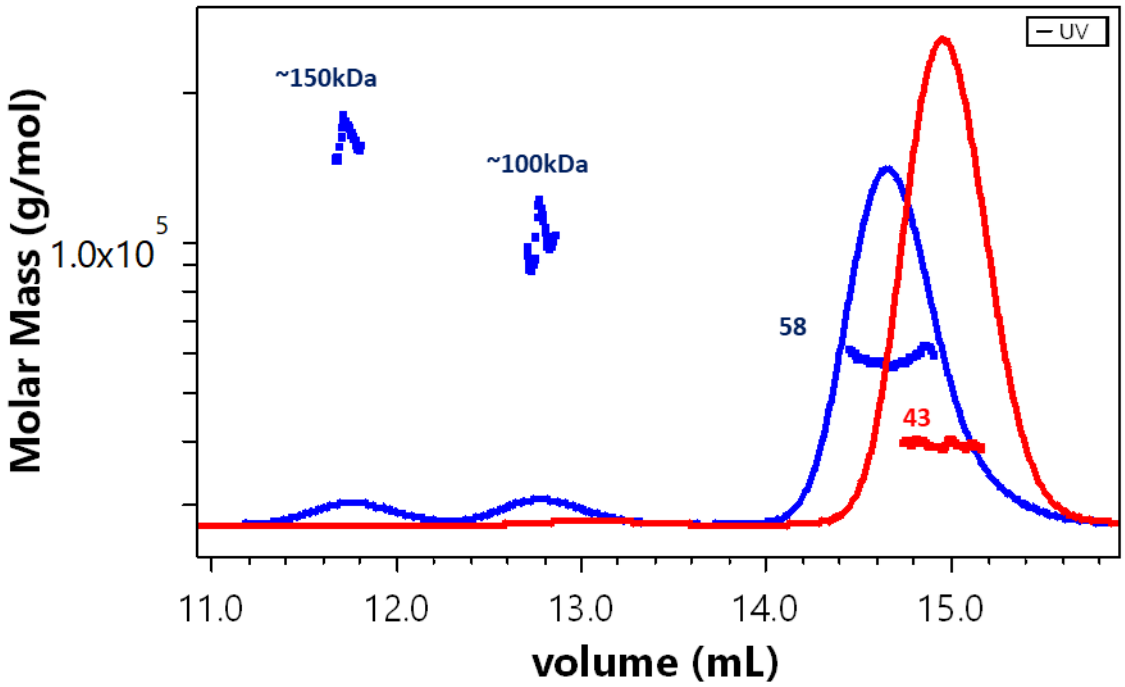




SI 2. RP-UPLC-MALS of PPI-18**.** MALS results confirmed the presence of oligomers for PPI18.



SI 3. SEC-MALS of PPI-1 Fc and Fab fragments. PPI1 Fc fragment and PPI1 Fc fragment are plotted in blue, and red lines, respectively.



SI 4. Long-term formulations list. Formulations list for long term stability studies

Formulation	Buffer	pH	Excipient	Salt
A	10 mM Histidine	5	-	-
B	10 mM Acetate	5	-	-
C	10 mM Histidine	6.5	280 mM Proline	-
D	10 mM Histidine	6.5	140 mM ArgHCl	-
E	10 mM Histidine	6.5	280 mM Sucroce	-
F	10 mM Histidine	6.5	-	-
G	10 mM Histidine	6.5	-	140 mM NaCl
H	10 mM Phosphate	6.5	-	-

SI 5 Purity data. cIEF and SEC results of the protein bulk (i.e. before formulating).

Method	**cIEF**	**SEC**
Protein	Isoelectric point Ip	Monomer mass fraction (%)
PPI-01	7.2	99.7
PPI-02	9.2 – 9.3	98.3
PPI-03	9.3 – 9.4	99.8
PPI-04	8.8 – 9.0	99.1
PPI-08	9.0 – 9.2	99.7
PPI-10	8.9 – 9.2	96.3
PPI-13	8.8 – 8.9	99.4
PPI-17	8.9 – 9.1	98.5
PPI-18	5.2 – 5.6	98.3
PPI-30	6.2	100