

Supporting Information

Physical characteristics comparison between maytansinoid-based and auristatin-based antibody-drug conjugates

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Overview of current approved ADCs

Table S1. FDA-approved ADCs and their Drug-Linkers

General name	ADC name	Approval	Drug-Linker	Mode of Action
Mylotag®	Gemtuzumab ozogamicin	2000, 2017	calicheamicin	DNA damaging agent
Adcetris®	Brentuximab vedotin	2011	MMAE	microtubule inhibitor
Kadcyla®	Trastuzumab emtansine	2013	DM1	microtubule inhibitor
Besponsa®	Inotuzumab ozogamicin	2017	calicheamicin	DNA damaging agent
Polivy®	Polatuzumab vedotin	2019	MMAE	microtubule inhibitor
Padcev®	enfortumab vedotin-ejfv	2019	MMAE	microtubule inhibitor
Enhertu®	fam-trastuzumab deruxtecan-nxki	2019	Dxd	topoisomerase inhibitor
Trodelvy®	sacituzumab govitecan-hziy	2020	SN-38	topoisomerase inhibitor
Blenrep®	belantamab mafodotin-blmf	2020	MMAF	microtubule inhibitor
Zynlonta™	loncastuximab tesirine-lpyl	2021	tesirine	DNA damaging agent
Tivdak™	tisotumab	2021	MMAE	microtubule inhibitor

vedotin-tftv

Chemical structure of each payloads

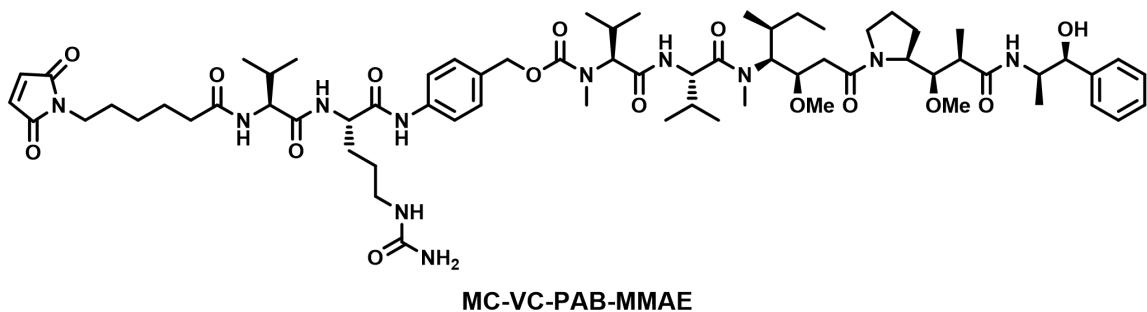
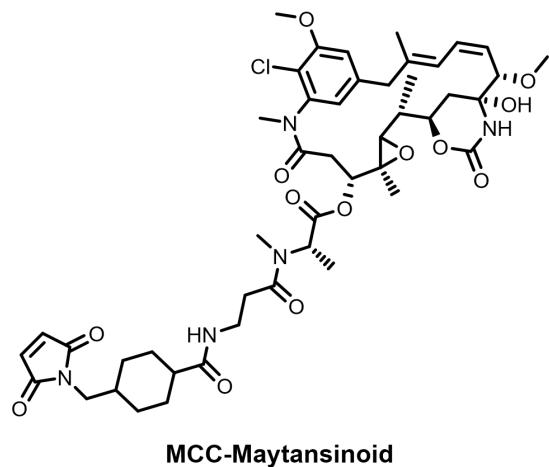


Figure S1. Chemical structure of each payloads

HPLC analysis

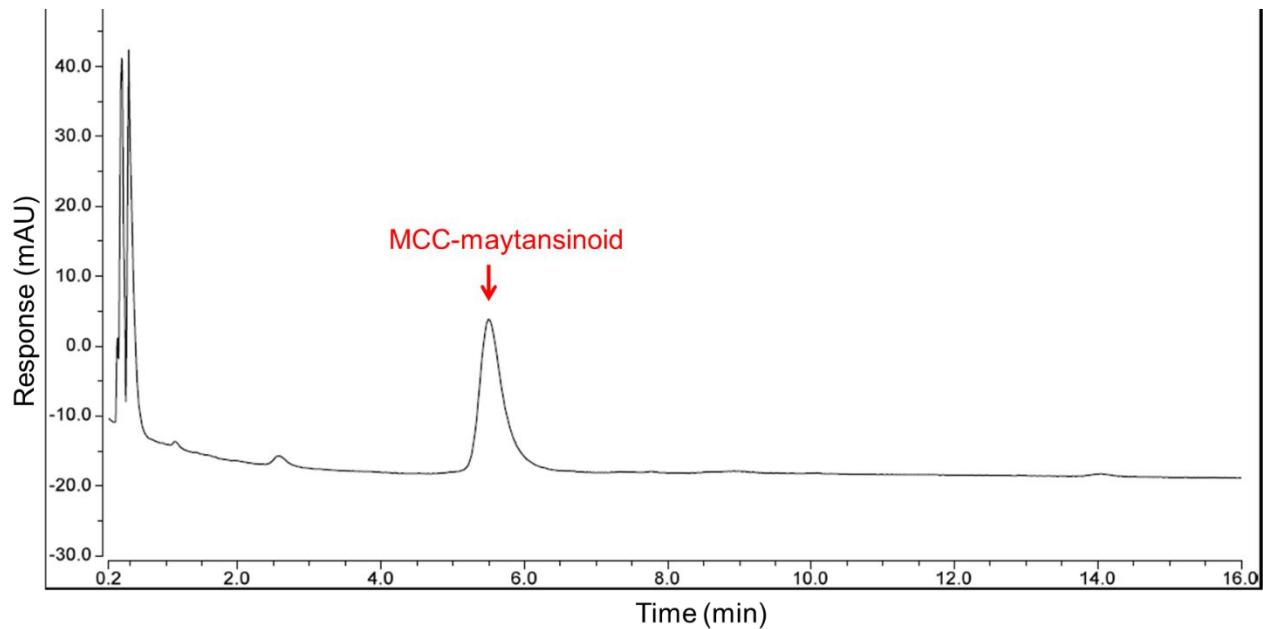


Figure S2. Full length chromatogram for MCC-maytansinoid

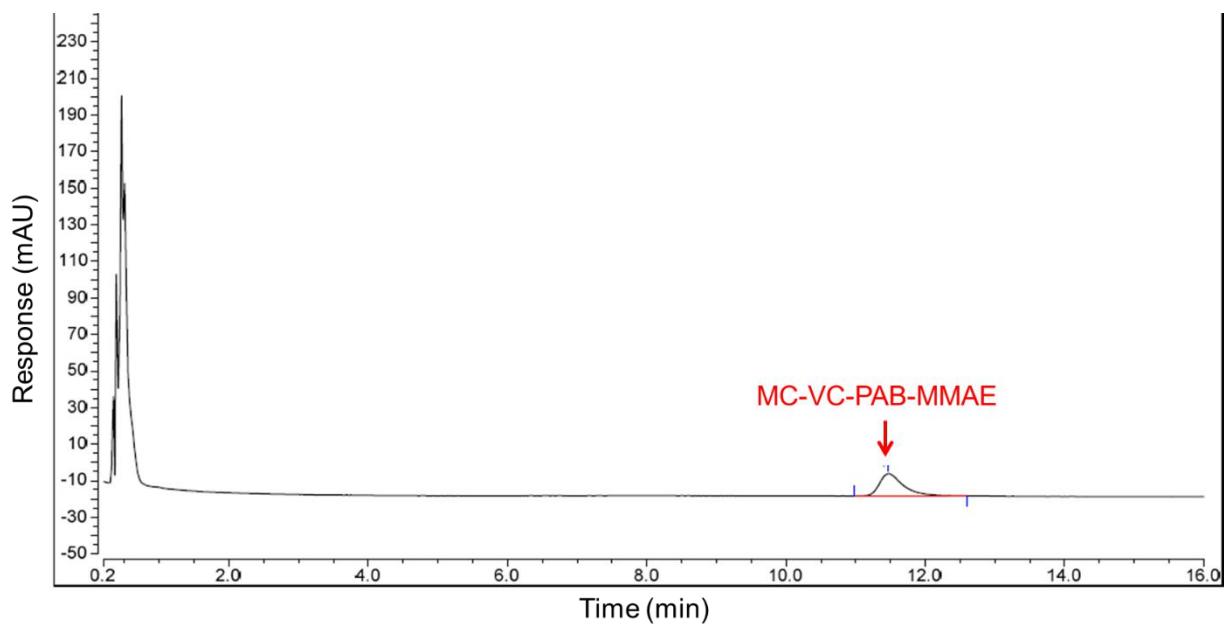


Figure S3. Full length chromatogram for MC-VC-PAB-MMAE

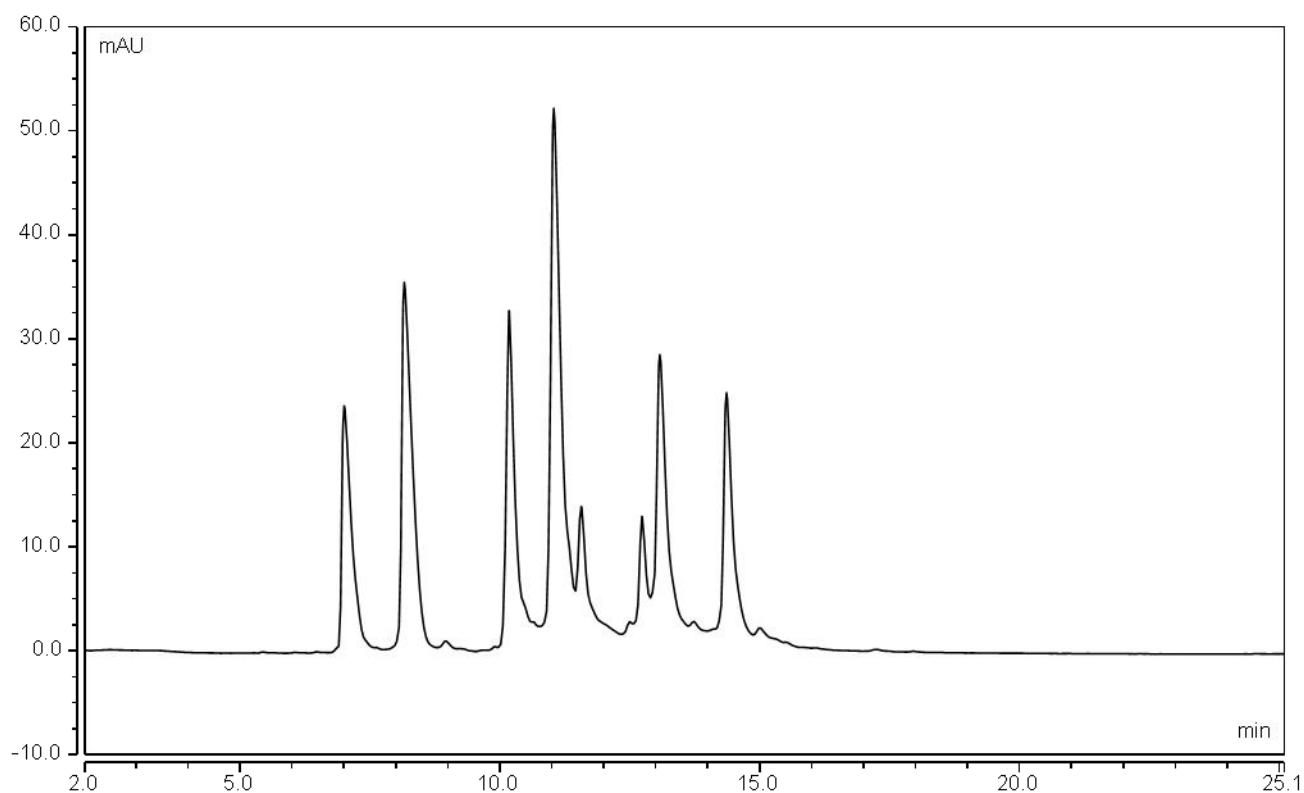


Figure S4. RP-HPLC chromatogram for trastuzumab-MCC-maytansinoid with DAR = 4.1

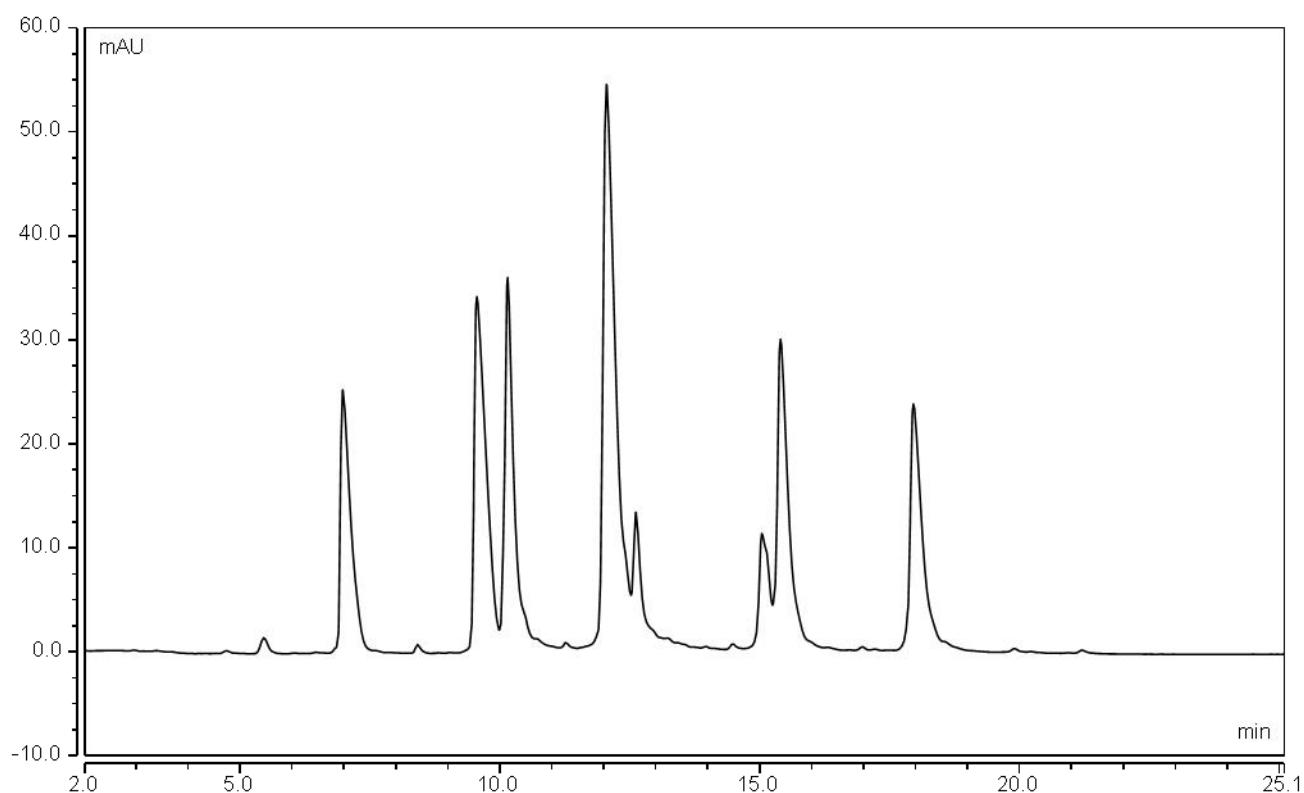


Figure S5. RP-HPLC chromatogram for trastuzumab-MC-VC-PAB-MMAE with DAR 4.0

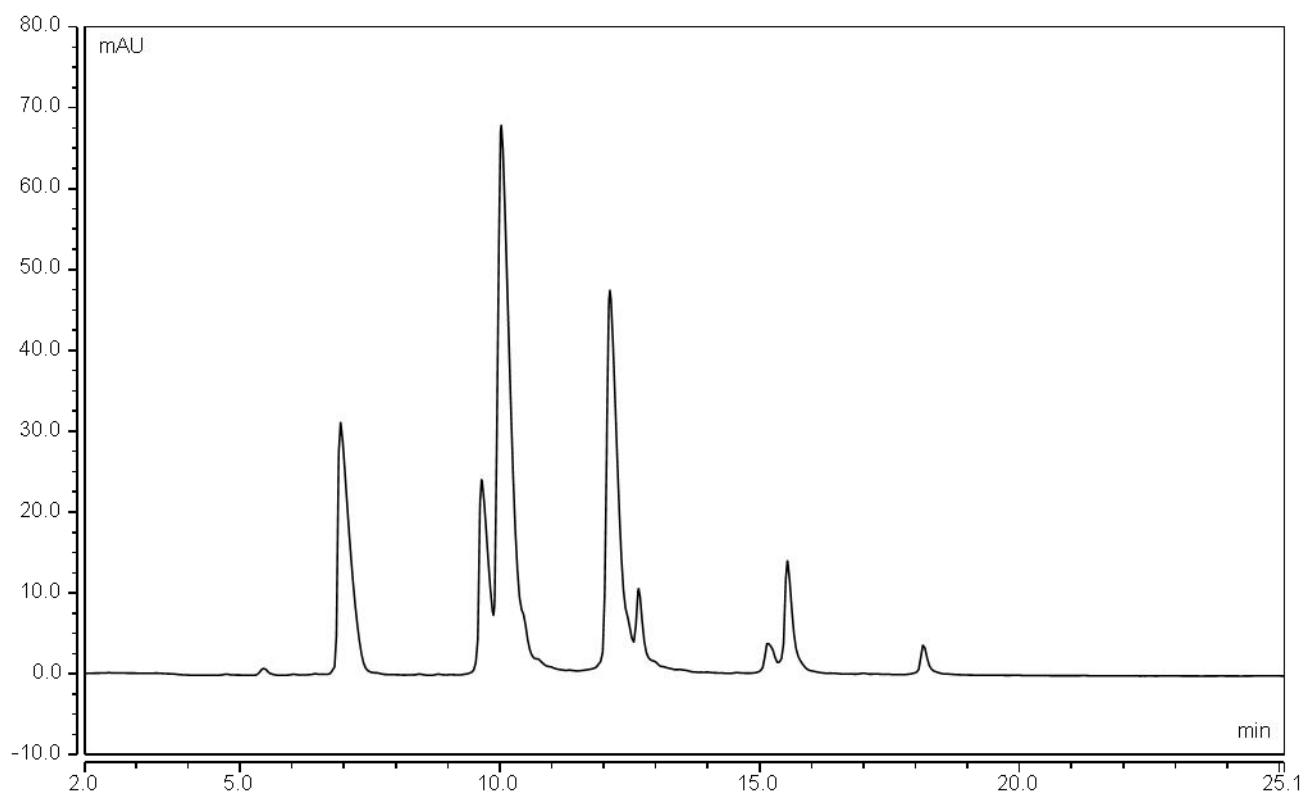


Figure S6. RP-HPLC chromatogram for trastuzumab-MC-VC-MMAE with DAR 1.9

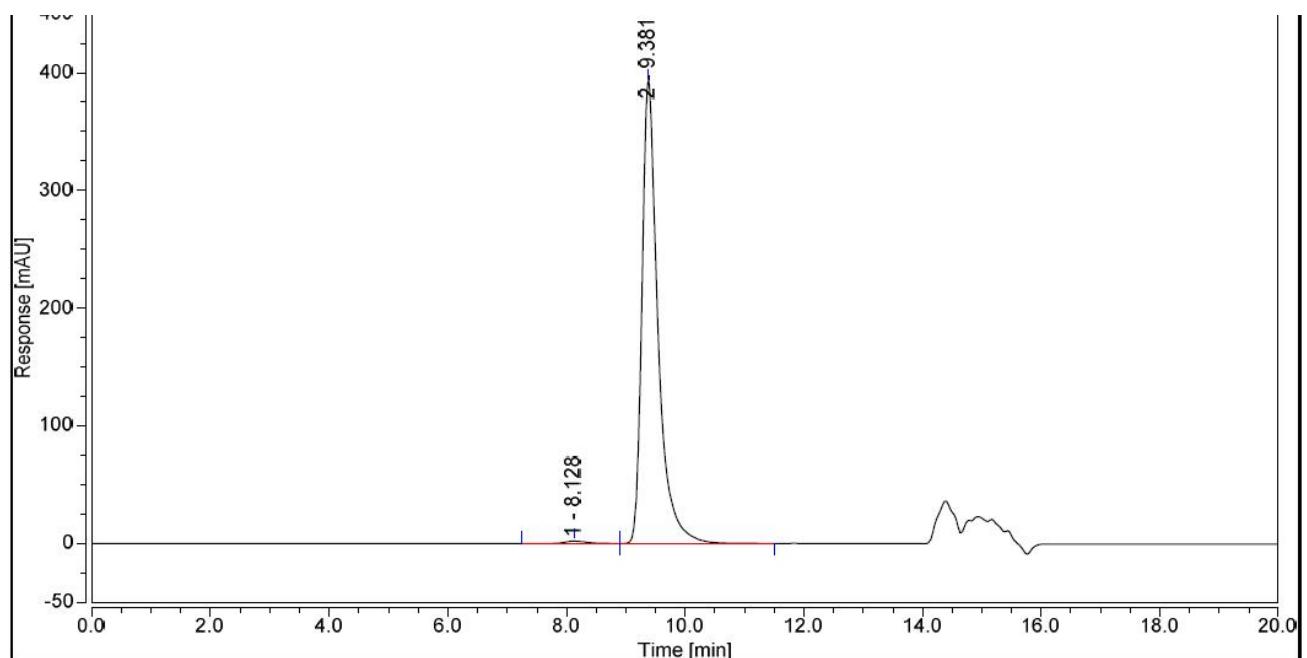


Figure S7. SEC chromatogram for trastuzumab-MCC-maytansinoid with DAR = 4.1

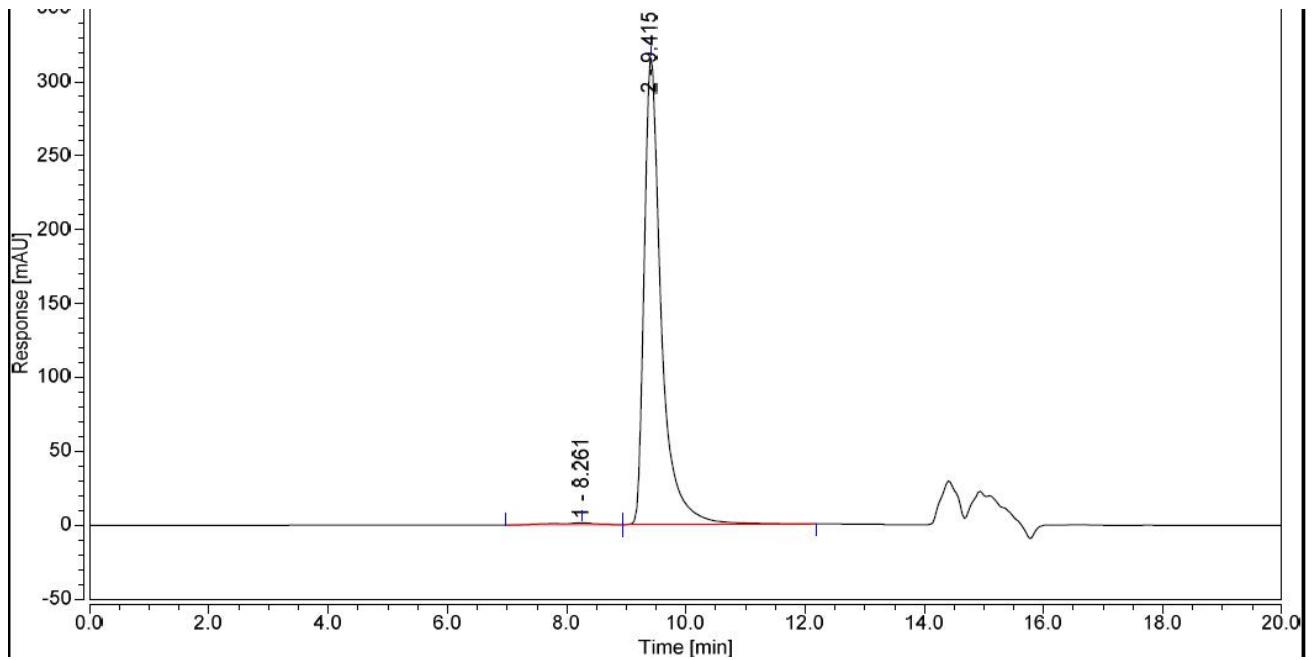


Figure S8. SEC chromatogram for trastuzumab-MC-VC-PAB-MMAE with DAR 4.0

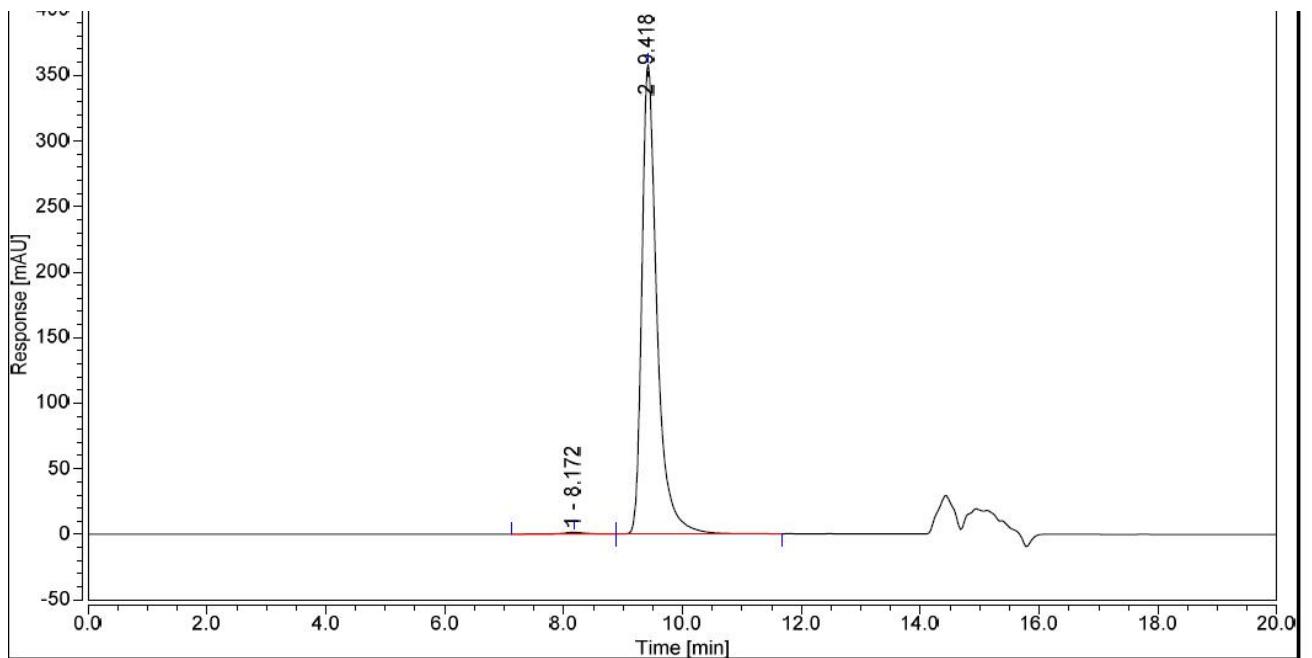


Figure S9. SEC chromatogram for trastuzumab-MC-VC-MMAE with DAR 1.9

DSC analysis

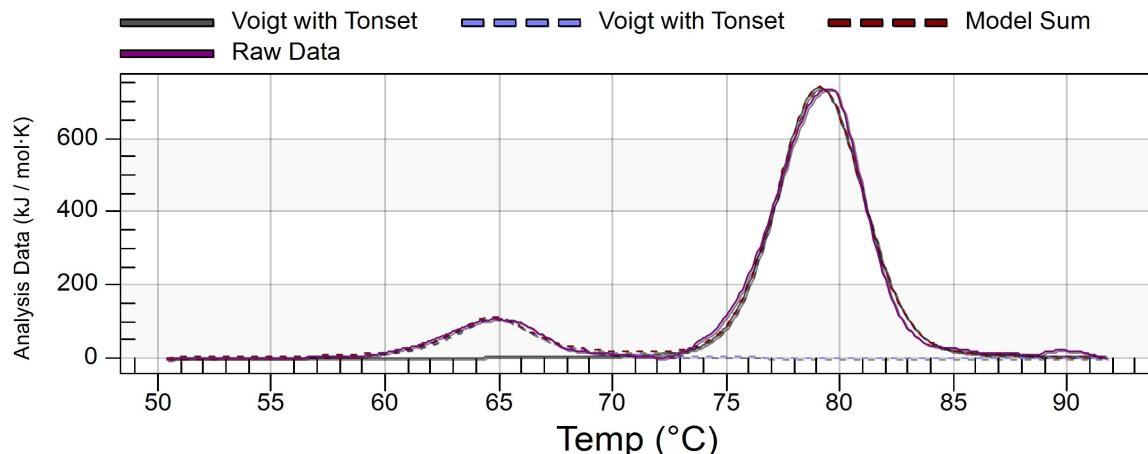


Figure S10. Example of data fitting of trastuzumab

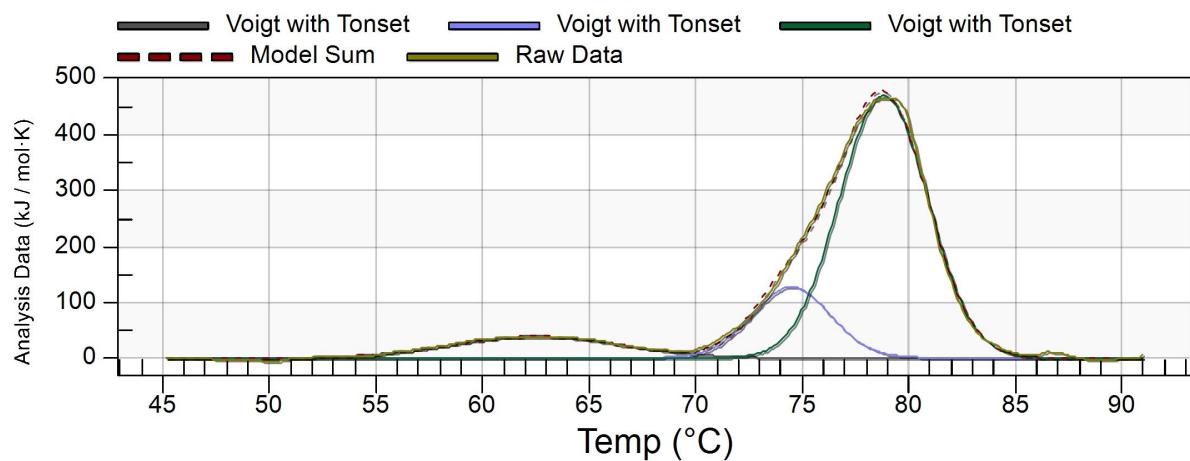


Figure S11. Example of data fitting of T-DM1 (Kadcyla)

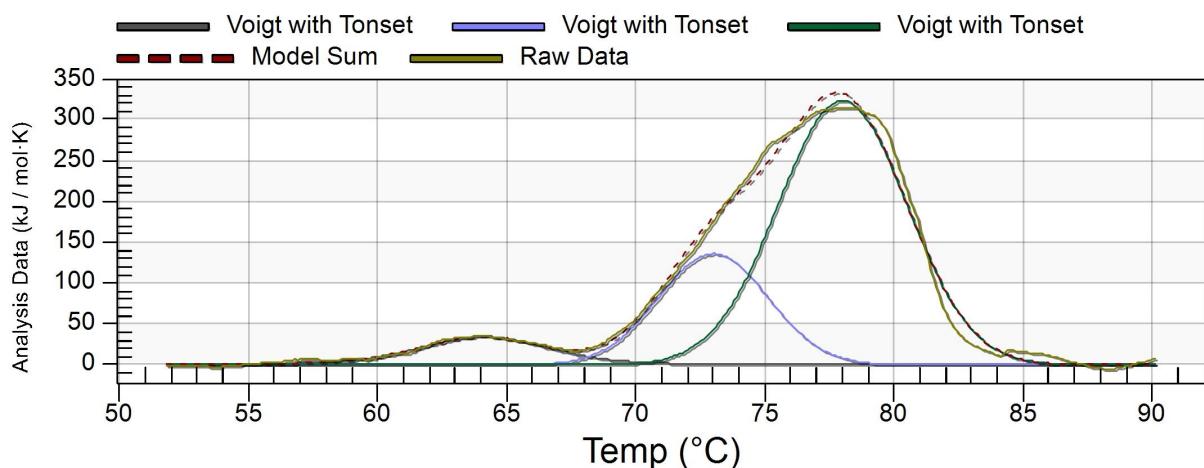


Figure S12. Example of data fitting of trastuzumab-MCC-maytansinoid (DAR = 4.1)

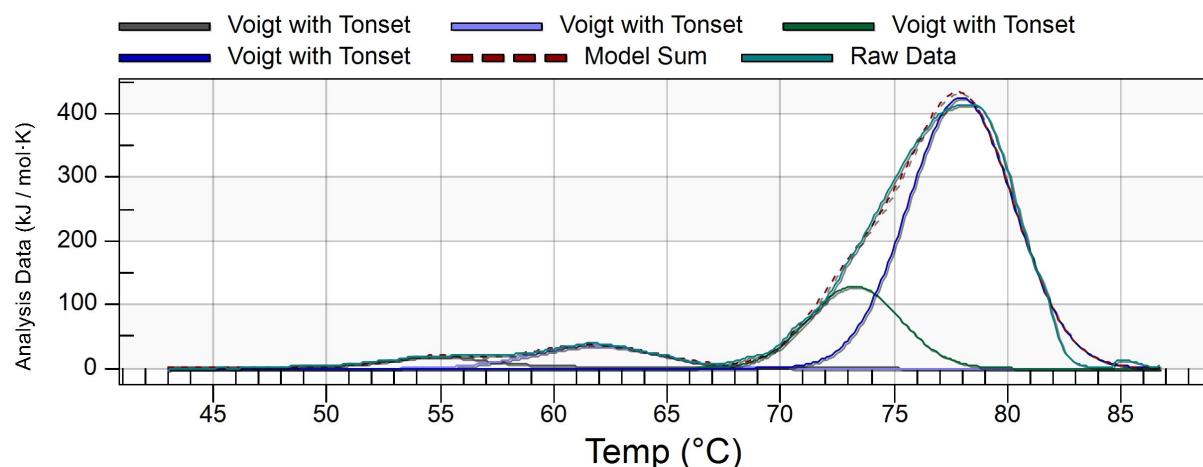


Figure S13. Example of data fitting of trastuzumab-MC-VC-MMAE (DAR = 4.0)

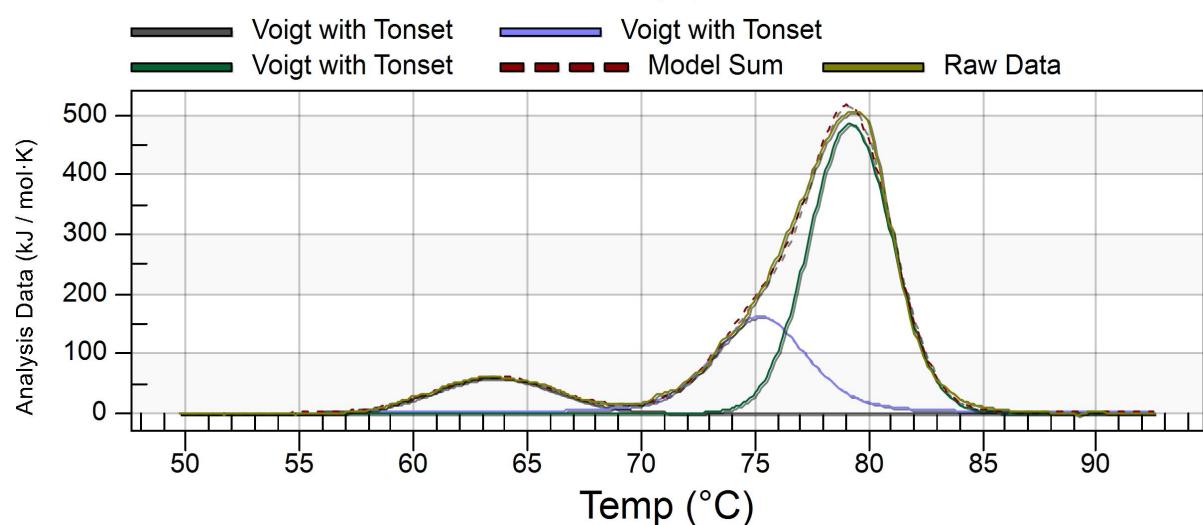


Figure S14. Example of data fitting of trastuzumab-MC-VC-MMAE (DAR = 1.9)