

Case Study I: Process Optimization for More Reproducible & Homogeneous ADCs

This case shows a bispecific nanobody drug conjugate with a targeted DAR value of 4. The payload is MMAE and the linker contains a branched hydrophilic moiety as an added modification to the molecule design. The BsAb bears a disulfide-containing knob-into-hole structure, which results in additional needs to control unintended Cys-conjugation. We systematically optimized the reduction and conjugation process parameters to generate DAR 4 species accounting for greater than 98%, and the DAR value remains highly consistent at different synthesis scales.



Case Study II: Optimization to Minimize the Level of ADC Aggregation

In this case, the molecule is designed as a cysteine-conjugated DAR8 ADC. The hydrophobicity from the exatecan-based payload-linker in this ADC causes ADC aggregation in conjugation process, resulting in low yield. We optimized the process by adjusting the reaction parameters to minimize aggregation and improve yield.