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Method	Sortagging reaction	Click chemistry
Number of synthesis steps	3 steps	3 steps
Required reagent	GMBS GGG(W/T)C peptide Sortase A enzyme	DBCO-PEG₅-NHS azide-PEG₄-NHS
Reagent stability	+ Biomolecule high sensitivity to environment (temperature, medium)	++ (DBCO-PEG <sub>5</sub> -NHS needs to be used at <20mM in aqueous medium)
VHH modification	no	yes
Reaction selectivity	High	High
Reaction speed	Rapid (2-3h)	Moderate (24h)
Conversion yield	Moderate (<50%)	High (>95%)
Final purification	Sortase elimination + SEC preparative (no elimination of excess AGuIX possible)	SEC preparative (all excess reagents can be removed)
Ratio NP/VHH	1	1
DH (nm)	6.1 ± 3.7 nm	5.4 ± 3.1 nm
Reaction costs	High (Biomolecule production)	Moderate
Scale-up potential	Low	High