	ID	sequence
PCR primers (step 1)	35bpL ins F	TTGAACAGCGATATCATACGCGGCCGCCCTGG
	35 ext R	GATATCGCTGTTCAATACATGCACAGGATGTATATATCTGACACGTG
	20bpL ins F	TGCATGACTAGATATCCCGCCCTGGAGAATCCCGG
	20bpL ins R	GATATCTAGTCATGCACAGGATGTATATATATCGACACGTG
PCR primers (step 3)	Uni LF	AGCACCGCTTAAACGCACGTAC
	Ve ot Rlong	AAGCTTTCTTTGCCTTGACGTTCTCGGAATTC
oligonucleotides for 2-fragment Gibson Assembly (step 4)	35bpL F string	CGTCAAGGCAAAGAAAGCTTGCATGTATTGAACAGCGATATCATACGCG GCCGCCCTGGAGAATCCCGGTGCCGAGGCCGCTCAATTGGTCGTAGAC AGCTCTAGCACCGCTTAAACGCA
	35bpL R string	TGCGTTTAAGCGGTGCTAGAGCTGTCTACGACCAATTGAGCGGCCTCGG CACCGGGATTCTCCAGGGCGGCCGCGTATGATATCGCTGTTCAATACAT GCAAGCTTTCTTTGCCTTGACG
	20bpL F string	CGTCAAGGCAAAGAAAGCTTGCATGACTAGATATCCCGCCCTGGAGAAT CCCGGTGCCGAGGCCGCTCAATTGGTCGTAGACAGCTCTAGCACCGCTT AAACGCACGTACGCGCTGTCCC
	20bpL R string	GGGACAGCGCGTACGTGCGTTTAAGCGGTGCTAGAGCTGTCTACGACC AATTGAGCGGCCTCGGCACCGGGATTCTCCAGGGCGGGATATCTAGTC ATGCAAGCTTTCTTTGCCTTGACG
sequencing primers	M13 F	GTAAAACGACGGCCAG
	M13 R	CAGGAAACAGCTATGAC
biotinylated oligonucleotides for ligation	25bp Bio F	(Btn)-GAGAACGTCAAGGCAAAGAA
	25bp Bio R	AGCTTTCTTTGCCTTGACGTTCTC
	15bp Bio F	(Btn)-AGTGAATTCCGAGAACGTCAAGGCAAAGAA
	15bp Bio R	AGCTTTCTTTGCCTTGACGTTCTCGGAATTCACT
1xWidom with 35bp linkers		GAATTCCGAGAACGTCAAGGCAAAGAAAGCTTGCATGTATTGAACAGCG ATATCATACGCGGCCGCC**CTGGAGAATCCCGGTGCCGAGGCCGCTCAA TTGGTCGTAGACAGCTCTAGCACCGCTTAAACGCACGTACGCGCTGTC CCCCGCGTTTTAACCGCCAAGGGGATTACTCCCTAGTCTCCAGGCACG TGTCAGATATATACATCCTGT**GCATGTATTGAACAGCGATATCATACGCG GCCGCCCTGGAGAATCCCGGGATCC

Supplementary table. Sequences used in the study. Sequences include PCR primers for linker expansion (step 1) and RS2 introduction (step 3), 120-mers that are annealed to double strand and used in 2-fragment Gibson Assembly reaction, which inserts the second linker. Then common M13 sequencing primers enable sequence verification at each step of the workflow. One of the oligonucleotides carries a terminal biotin modification for immobilization. The architecture of DNA constructs: the core Widom 601 sequence (in bold) with 35bp linkers on each side (yellow), restriction sites RS1 and RS3 are in red, and RS2 is in green.