**Table S1 Oligonucleotide sequence and modification**

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| --- | --- | --- | --- |
| **Name** | **5' Modification** | **3' Modification** | **Sequence 5'-->3'** |
| Arm1\_long | Azide | None | ttttttCATCGCCCTTGGACTACGACTAAATCGTGAGTCTGACTCGACTGGATG |
| Arm2\_long | None | Azide | GACTGGATGGAGTCAGACTTCGTGTCTAAAGTCCGTTACCTTGATTtctctc |
| Arm1 | Azide | None | ttttttCATCGCCCTTGGACTACGACTAAATCGTG |
| Arm2 | Phosphate | Azide | TCGTGTCTAAAGTCCGTTACCTTGATTtctctc |
| Arm1Capture | Biotin | None | CTCTCTCTCTCTCTCTCATCCAGTCGAGTCAGACT |
| Arm2Capture | None | Biotin | AGTCTGACTCCATCCAGTCTCTCTCTCTCTCTCTC |
| S3primer\_long | Amino Modifier C6 | None | AAAAAAAAAACATATGACAGAACTAGACACTCTTAGTCTGACTCGACTGGATG |
| S3block\_long | Amino Modifier C6 | None | AAAAAAAAAAGACGCTAATAGTTAAGACGCTTAGTCTGACTCGACTGGATG |
| S3primer | Amino Modifier C6 | None | AAAAAAAAAACATATGACAGAACTAGACACT |
| S3block | Amino Modifier C6 | None | AAAAAAAAAAGACGCTAATAGTTAAGACG |
| S3Capture | Biotin | None | CTCTCTCTCTCTCTCTCATCCAGTCGAGTCAGACTAA |
| BioFwd | None | None | CATCGCCCTTGGACTACGA |
| BioRev | None | None | GGGAATCAAGGTAACGGACTTTAG |
| BioSplint | None | None | TACTTAGACACGACACGATTTAGTTT |
| S3 padlock | Phophate | None | CTATTAGCGTCCAGTGAATGCGAGTCCGTCTAAGAGAGTAGTACAGCAGCCGTCAAGCGTCTTAA |