-continued

```
accacgcgtt tatcacgaac gggttcgtca gccacgctac tggcctcacc ggtctgaact   1140

caggcctcac gacaaatcct ggtgtatccg cttggcaggt caacacagct tatactgcgg   1200

gacaattggt cacatataac ggcaagacgt ataaatgttt gcagccccac acctccttgg   1260

caggatggga accatccaac gttcctgcct tgtggcagct tcaatga                 1307


<210> SEQ ID NO 21
<211> LENGTH: 120
<212> TYPE: PRT
<213> ORGANISM: Escherichia coli

<400> SEQUENCE: 21

Met Asn Thr Tyr Ser Ile Thr Leu Pro Trp Pro Pro Ser Asn Asn Arg
1               5                   10                  15

Tyr Tyr Arg His Asn Arg Gly Arg Thr His Val Ser Ala Glu Gly Gln
            20                  25                  30

Ala Tyr Arg Asp Asn Val Ala Arg Ile Ile Lys Asn Ala Met Leu Asp
        35                  40                  45

Ile Gly Leu Ala Met Pro Val Lys Ile Arg Ile Glu Cys His Met Pro
    50                  55                  60

Asp Arg Arg Arg Arg Asp Leu Asp Asn Leu Gln Lys Ala Ala Phe Asp
65                  70                  75                  80

Ala Leu Thr Lys Ala Gly Phe Trp Leu Asp Asp Ala Gln Val Val Asp
                85                  90                  95

Tyr Arg Val Val Lys Met Pro Val Thr Lys Gly Gly Arg Leu Glu Leu
            100                 105                 110

Thr Ile Thr Glu Met Gly Asn Glu
        115                 120
```

**1**. A method to inhibit or disrupt a biofilm comprising contacting the biofilm with an agent that cleaves the Holliday junction (HJ) structure in the biofilm.

**2**. The method of claim **1**, wherein the contacting is in vitro or in vivo.

**3**. The method of claim **1**, wherein the agent is an HJ-specific endonuclease.

**4**. The method of claim **3**, wherein the HJ-specific endonuclease is a RuvABC polypeptide or a RusA polypeptide or both.

**5**. The method of claim **4**, wherein the RusA polypeptide comprises the polypeptide MVNTYSITLPWPPSNNRYYRHNRGRTHVSAEGQAYRDNVARIIKNAMLDIGLAMPVKI RIECHMPDRRRRDLDNLQKAAFDALTKAGFWLDDAQVVDYRVVKMPVTKGGRLELTI TEMGNEA (SEQ ID NO: 1), or an equivalent thereof.

**6**. The method of claim **4**, wherein the RuvABC polypeptide comprises the polypeptides MIGRLRGIBEKQPPLVLIEVGGVGYEVHMPMTCFYELPEAGQEAIVFT HFVVREDAQLL YGFNNKQERTLFKELIKTNGVGPKLALAILSGMSAQQFVNAVEREEVGALVKLPGIGKK TAERLIVEMKDRFKGLHG LFTPAADLVLTSPASPATDDAEQEAVAALVALGYKPQEAS RMVSKIARPDASSETLIREALRAAL (SEQ ID NO: 4); MIEADRLISAGTTLPEDVADRAIRPKLLEEYVGQPQVRSQMEIFIKAAKLRGDALDHLLIF GPPGLGKTTLANIVANEMGVNLRTTSGPVLEKAGDLAAMLTNLEPHDVLFIDEIHRLSP VVEEVLYPAMEDYQLDIMIGEGPAARSIKIDLPPFTLIGATTRAGSLTSPLRDRFGIVQRL EFYQVPDLQYIVSRSARFMGLEMSDDGALEVARRARGTPRIANRLLRRVRDFAEVKHD GTISADIAAQALDMLNVDAEGFDYMDRKLLLAVIDKFFGGPVGLDNLAAAIGEERETIE DVLEPYLIQQGFLQRTPRGRMATTRAWNHFGITPPEMPA (SEQ ID NO: 2); and MASAIILGIDPGSRVTGYGVIRQVGRQLSYLGSGCIRTKVDDLPSRLKLIYAGVTEIITQFQ PDYFAIEQVFMAKNADSALKLGQARGVAIVAAVNQELPVFEYAARQVKQTVVGIGSAE KSQVQHMVRTLLKLPANPQADAADALAIAITHCHVSQNAMQMSESRLNLARGRLRA (SEQ ID NO: 3), or an equivalent of each thereof, wherein an equivalent contains the mutated amino acids as shown in the bold font.

**7**. The method of claim **1**, wherein the biofilm is caused by one or more of uropathogenic *Escherichia coli* (UPEC), nontypeable *Haemophilus influenzae* (NTHI), *S. epidermidis, Streptococcus agalactiae, Neisseria meningitidis*, Treponemes, *denticola, pallidum, Burkholderia cepacia, Burkholderia pseudomallei, Moraxella catarrhalis, Streptococcus pneumoniae, Streptococcus pyogenes, Pseudomonas aeruginosa, Mycobacterium tuberculosis, Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa*, or *Enterobacter* species.