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BV 2017-28 - Linear Lipopeptide Paenipeptins and Methods of Using the Same as Antimicrobials and Potentiators

APPLICATION: Linear lipopeptides that are useful as antimicrobial or antibiofilm compositions and potentiators

- KEY BENEFITS:**
- The novel compounds are antimicrobial
 - The compounds are antibiofilm
 - Useful to sensitize microbes to existing drugs
 - Economical to synthesize

MARKET SUMMARY:

The continuing emergence and rapid dissemination of antibiotic-resistant pathogens are becoming a major threat to public health. Infections caused by carbapenem-resistant *Enterobacteriaceae* (CRE), which are difficult-to-treat and often untreatable, were recognized as one of the urgent threats among patients in medical facilities. Other serious threats caused by drug-resistant pathogens include multidrug-resistant *Acinetobacter*, multidrug-resistant *Pseudomonas aeruginosa*, drug-resistant *Campylobacter*, vancomycin-resistant *Enterococcus*, and methicillin-resistant *Staphylococcus aureus* (CDC, 2013). Compounding the concern, many bacterial pathogens are capable of forming biofilms, which are matrix-embedded cell aggregates and intrinsically tolerant to most antibiotic treatment on both native host tissues and indwelling medical devices. Serious infections caused by antibiotic-resistant pathogens are associated with high rates of morbidity and mortality and contribute to significant economic costs. There is an urgent need for novel, safe, and effective antimicrobial agents for the treatment of infections caused by drug-resistant and biofilm-forming pathogens.

TECHNICAL SUMMARY:

The inventors have synthesized 17 novel compounds and demonstrated their antimicrobial and antibiofilm activities against multiple bacterial targets including both Gram-positive and Gram-negative strains. Additionally, some of the compounds are useful for sensitizing bacteria to existing antibiotic drugs. The compounds have been tested against bacterial cultures and biofilms on a catheter *in vitro*.

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**DEVELOPMENTAL
STAGE:**

Linear Lipopeptide Paenipeptins and Methods of Using the Same as Antimicrobials and Potentiators

**PATENT
INFORMATION
AND CONTACT:**

App Type: Prov

Country: US

Serial No.:

Patent No.:

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Issue Date:

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