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Novel approaches for the design and discovery of quorum-sensing inhibitors

Introduction:

Areas covered:

S. aureus *P. aeruginosa*

Expert opinion:

Keywords:

P. aeruginosa

S. aureus

1. Introduction

Pseudomonas

Vibrio cholerae

E. coli

vitro *in vivo*

P. aeruginosa

in

P. aeruginosa

P. aeruginosa

Drosophila melanogaster

in vitro *in vivo*

Bacillus

megaterium

Rhodococcus erythropolis

P. aeruginosa

C. elegans

3.2 Antibodies

P. aeruginosa

in vitro *in vivo* *S. aureus* *P. aeruginosa*

S. aureus

in vitro

S. aureus

S. aureus

P. aeruginosa

C.

elegans

P. aeruginosa

P. aeruginosa

4. Strategies targeting autoinducer-receptor interaction and/or receptor-mediated signal.

S. aureus *P. aeruginosa*

- - -

S. aureus

agrBDCA

S. aureus

S. aureus

S. aureus

in vitro

S. aureus

S. aureus

Photobacterium

S. aureus

Hamamelis virginiana

S. aureus

P. aeruginosa

lasRI

rhlRI

N

N

las rhl

P. aeruginosa

lasI, rhlR, rhlI

lasI

rsaL lasI

P. aeruginosa

P.

aeruginosa

qscR

P. aeruginosa

P. aeruginosa

pqs

Figure 4, 7

E. coli

P. aeruginosa

Figure 4, 8

pqs

P. aeruginosa

Figure 4, 9

E. coli

P. aeruginosa

Figure 5, 10

P. aeruginosa

Candida albicans

pqsA

pqsA

pqsA-E

C. albicans

Streptococcus mutans

Staphylococcus aureus

C. albicans

P. aeruginosa

S. aureus

in vitro

5. Modern approaches based on innovative technologies.

5.1 Chemical methods.

Delisea pulchra

Figure 6, 11, 12

5.2 Computer-aided investigations.

in silico

P. aeruginosa

in silico

P.

aeruginosa

S. aureus

S. aureus *in*

silico

in silico

P. aeruginosa

Pseudomonas

5.3 Nano-and micro-technologies.

S. aureus

P. aeruginosa

5.4 Bacterial bio-engineering

E. coli

P. aeruginosa

P. aeruginosa

E. coli

E.

coli

E. coli

E.coli

Bacillus subtilis

P. aeruginosa,

E. coli

E. coli

6. Expert opinion

Serratia liquefaciens

D. pulchra

P.

aeruginosa

in vitro

P. aeruginosa

in vivo *in vitro*

S.

aureus

S. epidermidis

S. epidermidis

P. aeruginosa

S. aureus

in vivo

E. coli

in silico

in silico

Bibliography

Burkholderia pseudomallei

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa *Caenorhabditis elegans*

Pseudomonas aeruginosa

P. aeruginosa

Bacillus megaterium

Rhodococcus erythropolis

Pseudomonas aeruginosa

Caenorhabditis elegans

Pseudomonas aeruginosa

Pseudomonas aeruginosa

N

Pseudomonas aeruginosa

Rhodopseudomonas

palustris

Staphylococcus aureus

agr

Staphylococcus aureus

Staphylococcus aureus

Photobacterium

aeruginosa

Pseudomonas

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Pseudomonas aeruginosa

Candida albicans

Pseudomonas aeruginosa

Staphylococcus aureus

Candida albicans *Pseudomonas aeruginosa*

Staphylococcus aureus

Agr/Fsr

Staphylococcus aureus

Enterococcus faecalis

Pseudomonas aeruginosa

In silico

P. aeruginosa

7

Staphylococcus aureus

in silico

Pseudomonas aeruginosa

mazEF

Escherichia coli

mazEF

Pseudomonas aeruginosa.

Pseudomonas

aeruginosa

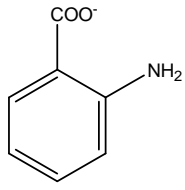
Pseudomonas aeruginosa

Pseudomonas aeruginosa

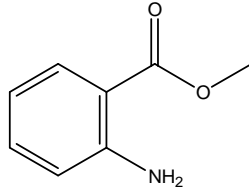
Pseudomonas aeruginosa

Pseudomonas

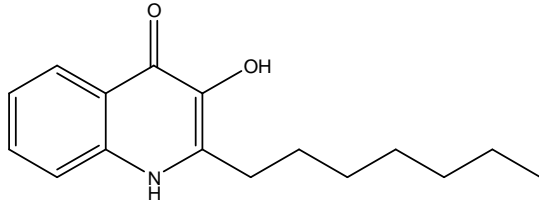
aeruginosa



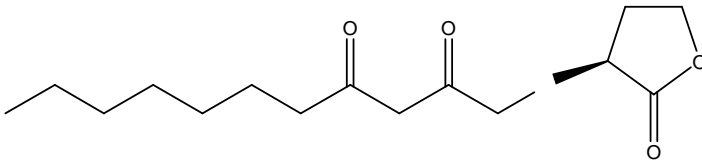
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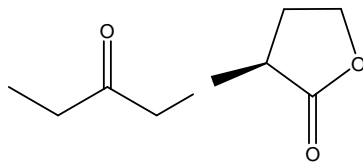
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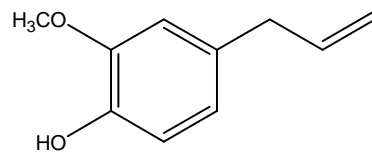
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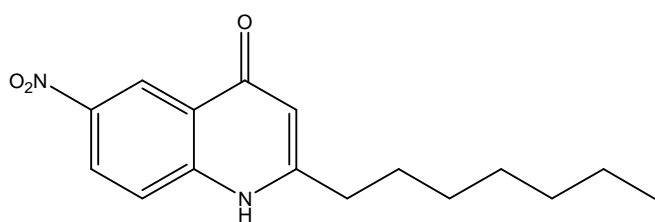
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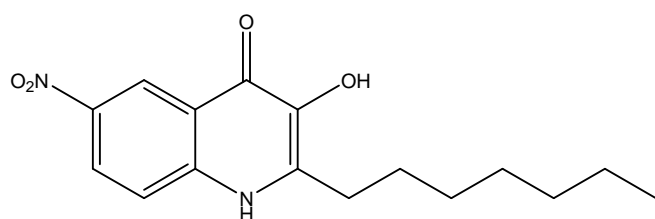
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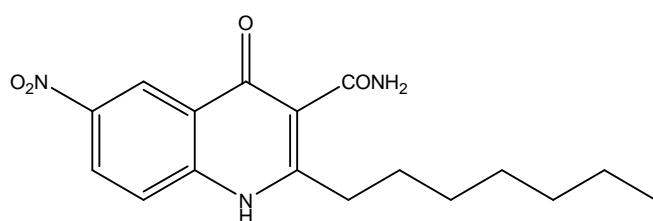
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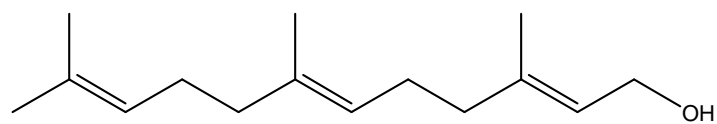
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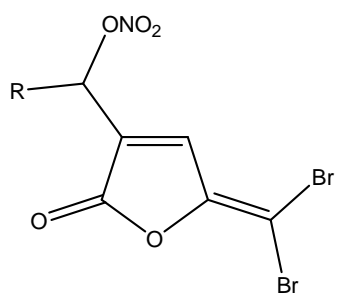
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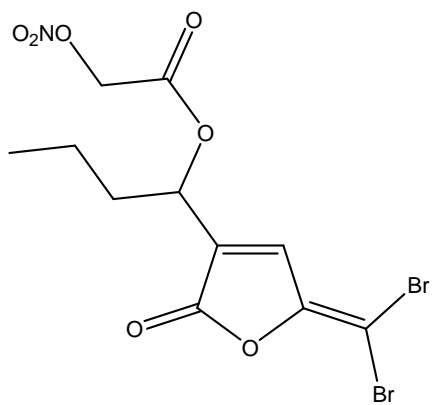
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