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Regulation of the biosynthesis of cyclic lipopeptides from *Pseudomonas putida* PCL1445

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Regulation of the biosynthesis
of Novel cyclic lipopeptides from
Pseudomonas putida strain PCL1445

Jean-Frédéric Dubern

Cover: Surface tension: Rain drop on a leaf just after a late afternoon
shower, by Jeff Schneiderman.
In cooperation with Peter Hock.

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Jean-Frédéric Bertrand Dubern
geboren te Mulhouse, France, in 1976

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“Regulation of the biosynthesis of Novel cyclic lipopeptides from *Pseudomonas putida* strain PCL1445” by Jean-Frédéric Dubern

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Pour mes parents Jean et Annette

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List of abbreviations

AHL	<i>N</i> -acylhomoserine lactone
C ₄ -AHL	<i>N</i> -butanoyl-L-homoserine lactone
C ₆ -AHL	<i>N</i> -hexanoyl-L-homoserine lactone
C ₈ -AHL	<i>N</i> -octanoyl-L-homoserine lactone
C ₁₀ -AHL	<i>N</i> -decanoyl-L-homoserine lactone
C ₁₂ -AHL	<i>N</i> -dodecanoyl-L-homoserine lactone
C ₁₄ -AHL	<i>N</i> -tetradecanoyl-L-homoserine lactone
3-oxo-C ₆ -AHL	<i>N</i> -(3-oxo-hexanoyl)-L-homoserine lactone
3-oxo-C ₈ -AHL	<i>N</i> -(3-oxo-octanoyl)-L-homoserine lactone
3-oxo-C ₁₀ -AHL	<i>N</i> -(3-oxo-decanoyl)-L-homoserine lactone
3-oxo-C ₁₂ -AHL	<i>N</i> -(3-oxo-dodecanoyl)-L-homoserine lactone
3-oxo-C ₁₄ -AHL	<i>N</i> -(3-oxo-tetradecanoyl)-L-homoserine lactone
CLP	Cyclic lipopeptide
CMC	Critical micelle concentration
DAPG	2, 4-diacetylphloroglucinol
EPS	Extracellular polysaccharide
GFP	Green fluorescent protein
HCN	Hydrocyanide
HPLC	High-performance liquid chromatography
NRPS	Non-ribosomal peptide synthetase
ORF	Open reading frame
PAH	Polyaromatic hydrocarbon
RBS	Ribosomal-binding site
TCA	Tricarboxylic acid
TLC	Thin-layer chromatography

