

Complete genome sequence and epigenetic profile of *Bacillus velezensis* UCMB5140 used for plant and crop protection in comparison with other plant-associated *Bacillus* strains

Oleg N. Reva^{1,*}, Safronova A. Larisa², Aneth D. Mwakilili^{3,4}, Donatha Tibuhwa³, Sylvester Lyantagaye³, Wai Yin Chan^{5,6,7}, Stefanie Lutz⁸, Christian H. Ahrens⁸, Joachim Vater⁹ and Rainer Borrius¹⁰

¹Centre for Bioinformatics and Computational Biology, Department of Biochemistry, Genetics and Microbiology, University of Pretoria, Hillcrest, Lynnwood Rd., Pretoria, South Africa

²Innovation and Technology Transfer Laboratory, DK Zabolotny Institute of Microbiology and Virology, 154 Zabolotnogo Str, Kyiv 03143, Ukraine

³Department of Molecular Biology and Biotechnology, University of Dar es Salaam, Dar es Salaam, Tanzania

⁴Plant Protection Department, Swedish University of Agricultural Sciences (SLU), Alnarp, Sweden

⁵Biotechnology Platform (BTP), Agricultural Research Council, Onderstepoort Veterinary Research Campus, Old Soutpan Rd, Onderstepoort, South Africa

⁶Department of Biochemistry, Genetics and Microbiology, University of Pretoria, Pretoria, South Africa

⁷Forestry and Agricultural Biotechnology Institute (FABI), DST-NRF Centre of Excellence in Tree Health Biotechnology (CTHB), University of Pretoria, Pretoria, South Africa

⁸Agroscope, Molecular Diagnostics, Genomics and Bioinformatics & SIB Swiss Institute of Bioinformatics, Müller-Thurgau-Str. 29, 8820 Wädenswil, Switzerland

⁹Robert Koch Institut, Berlin, Germany

¹⁰Institut für Biologie, Humboldt Universität Berlin, Berlin, German

*Correspondence to: oleg.reva@up.ac.za

Supplementary material

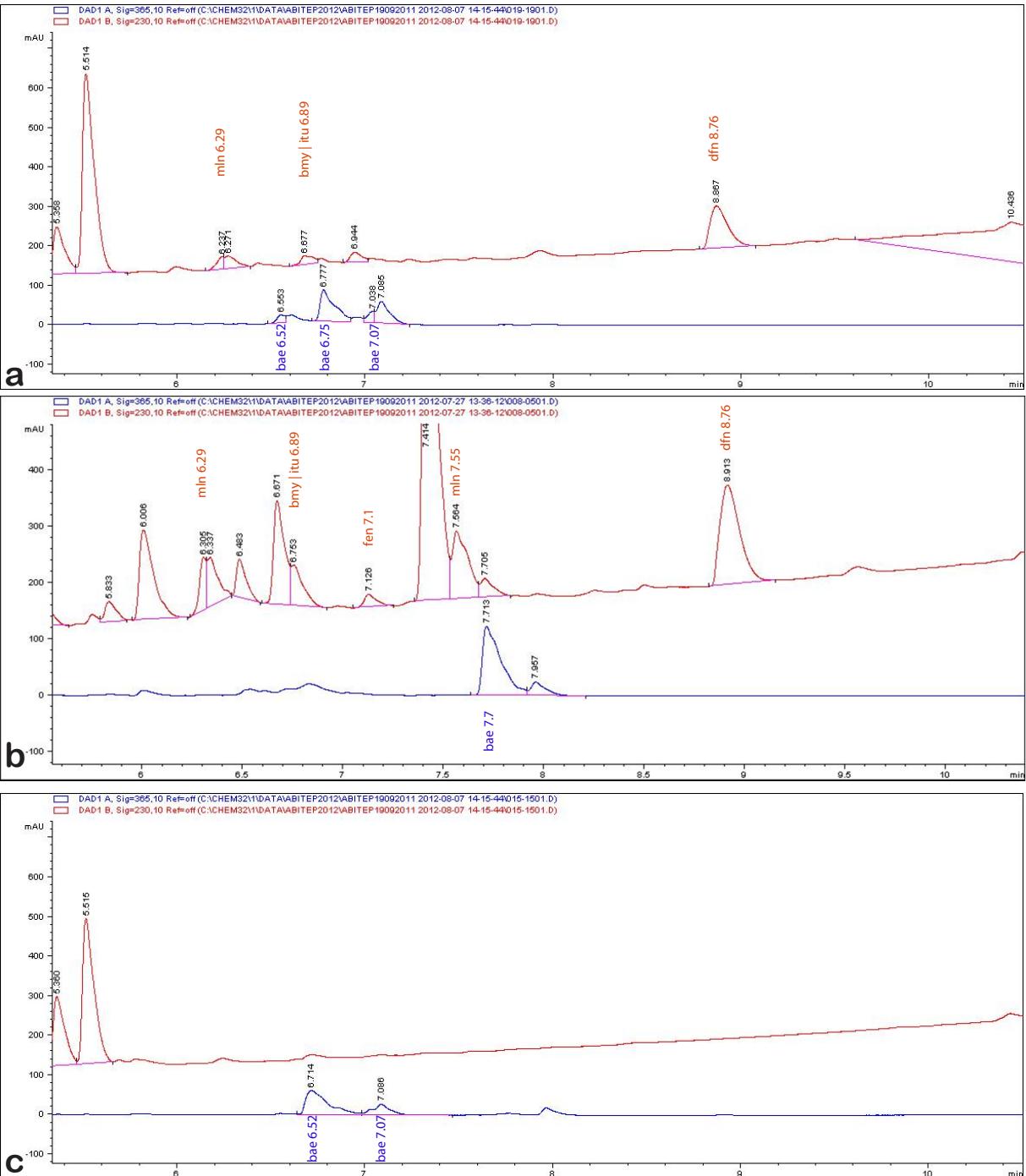


Fig. S1 Characteristic peak areas retrieved from HPLC chromatograms in culture media after 24 h of cultivation of a) UCMB5140; b) UCMB5113; and c) UCMB5021. Product abbreviations: bae – bacillaene; bmy – bacillomycin D; dfn – difficidin; fen – fengycin; itu – iturin A; mln – macrolactin D

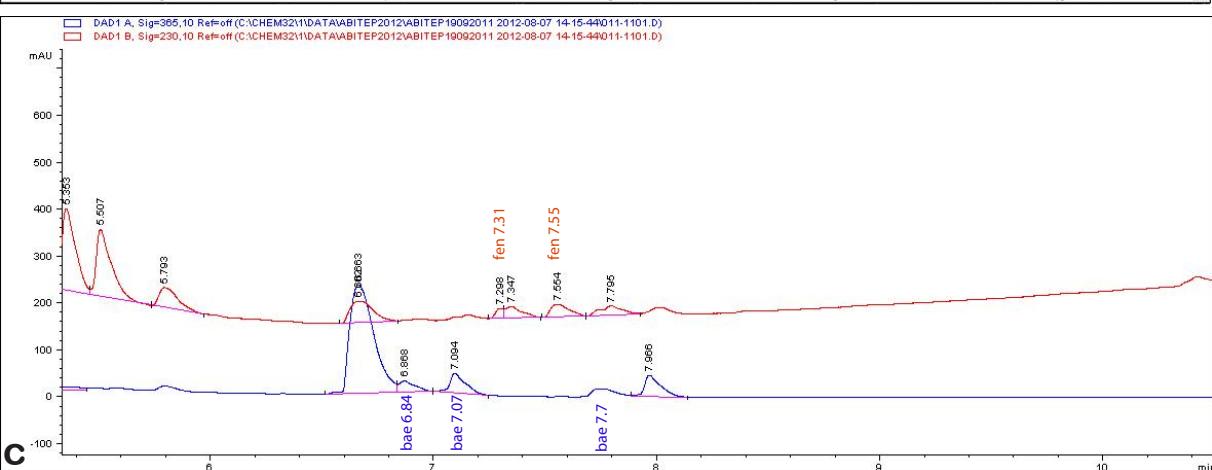
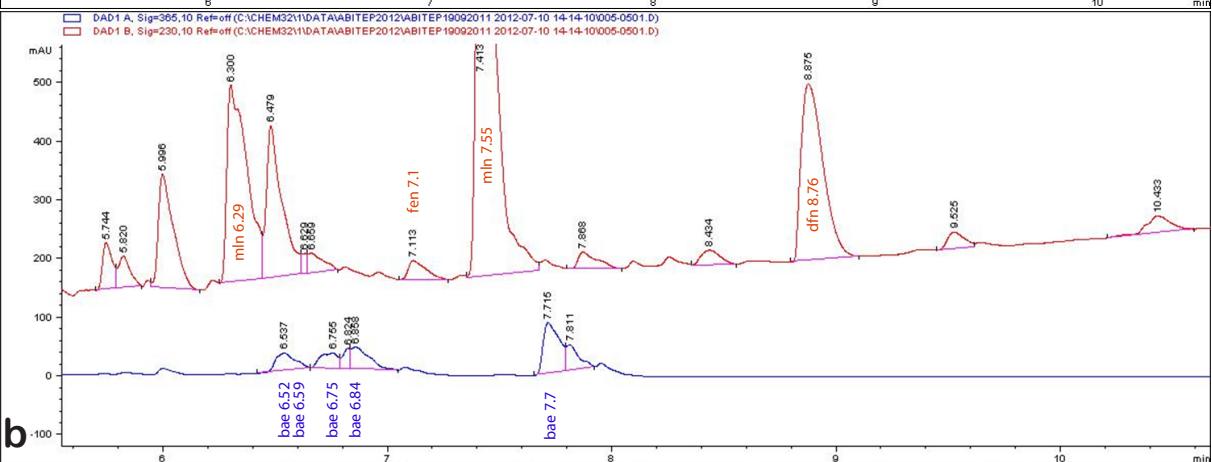
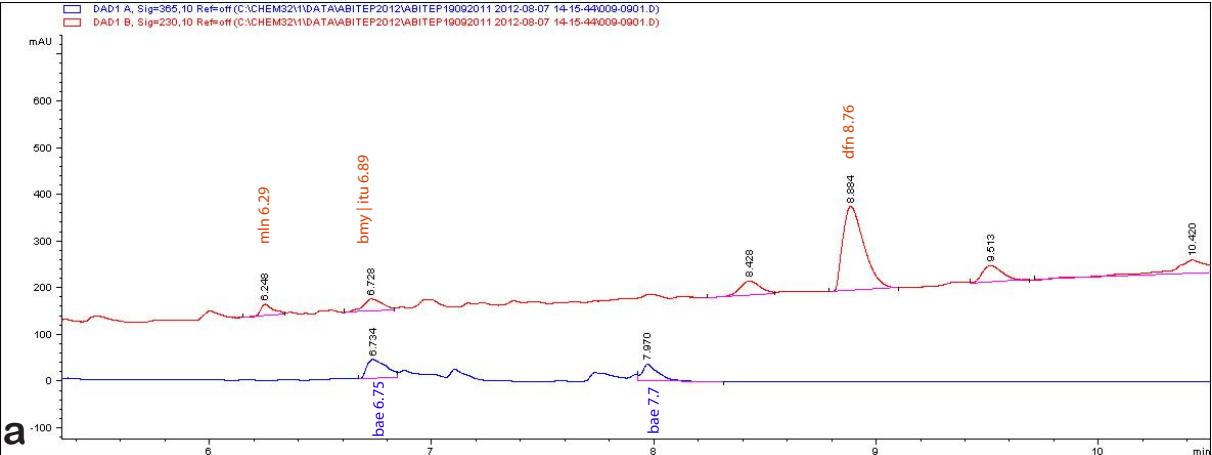
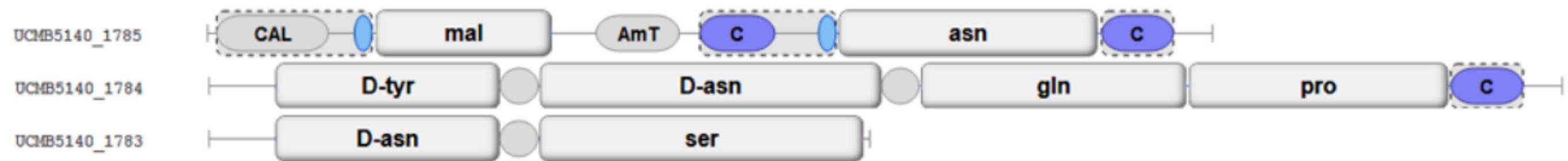


Fig. S2 Characteristic peak areas retrieved from HPLC chromatograms in culture media after 48 h of cultivation of a) UCMB5140; b) UCMB5113; and c) UCMB5021. Product abbreviations: bae – bacillaene; bmy – bacillomycin D; dfn – difficidin; fen – fengycin; itu – iturin A; mln – macrolactin D

UCMB 5140



UCMB 5113

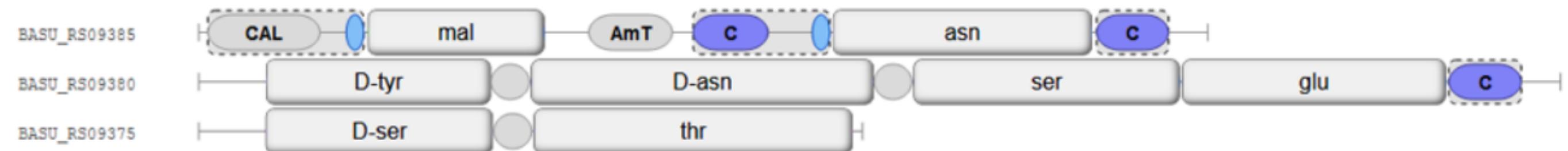


Fig. S3 Amino acid specific adenylation domains predicted by antiSMASH in NRPS gene clusters encoding iturin A in UCMB5140 and bacillomycin D in UCMB5113