

Antimicrobial and Antibiofilm Activity of *Origanum vulgare* Extracts Obtained by Supercritical Fluid Extraction under Various Extraction Conditions

Daniela Gwiazdowska ¹, Agnieszka Waśkiewicz ^{2,*}, Krzysztof Juś ¹, Katarzyna Marchwińska ¹, Szymon Frąk ¹, Dominik Popowski ^{3,4}, Katarzyna Pawlak-Lemańska ⁵, Pascaline Aimee Uwineza ², Romuald Gwiazdowski ⁶, Daria Padewska ³, Marek Roszko ³, and Marcin Bryła ³

¹ Department of Natural Science and Quality Assurance, Institute of Quality Science, Poznań University of Economics and Business, Niepodległości 10, 61-875 Poznań, Poland; daniela.gwiazdowska@ue.poznan.pl (D.G.), krzysztof.jus@ue.poznan.pl (K.J.), katarzyna.marchwinska@ue.poznan.pl (K.M.), szymon.frk@gmail.com (S.F.)

² Department of Chemistry, Poznań University of Life Sciences, Wojska Polskiego 75, 60-625 Poznań, Poland; agnieszka.waskiewicz@up.poznan.pl (A.W.)

³ Department of Food Safety and Chemical Analysis, Prof. Wacław Dąbrowski Institute of Agricultural and Food Biotechnology-State Research Institute, Rakowiecka 36, 02-532 Warsaw, Poland; dominik.popowski@ibprs.pl (D.Po.); daria.padewska@ibprs.pl (D.Pa.); marek.roszko@ibprs.pl (M.R.); marcin.bryla@ibprs.pl (M.B.)

⁴ Natural Products and Food Research and Analysis - Pharmaceutical Technology, Faculty of Pharmacy, University of Antwerp, Universiteitplein 1, Wilrijk, Belgium; dominik.popowski@uantwerpen.be (D.Po.)

⁵ Department of Technology and Instrumental Analysis, Institute of Quality Science, Poznań University of Economics and Business, Niepodległości 10, 61-875 Poznań, Poland; katarzyna.pawlak-lemanska@ue.poznan.pl (K.P.-L.)

⁶ Research Centre for Registration of Agrochemicals, Institute of Plant Protection-National Research Institute, Władysława Węgorka 20, 60-318 Poznań, Poland; R.Gwiazdowski@iorpib.poznan.pl (R.G.)

* Correspondence: agnieszka.waskiewicz@up.poznan.pl (A.W.)

27

Citation: To be added by editorial staff during production.

Academic Editor: Firstname
Lastname

Received: date

Revised: date

Accepted: date

Published: date



Copyright: © 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Supplementary Material

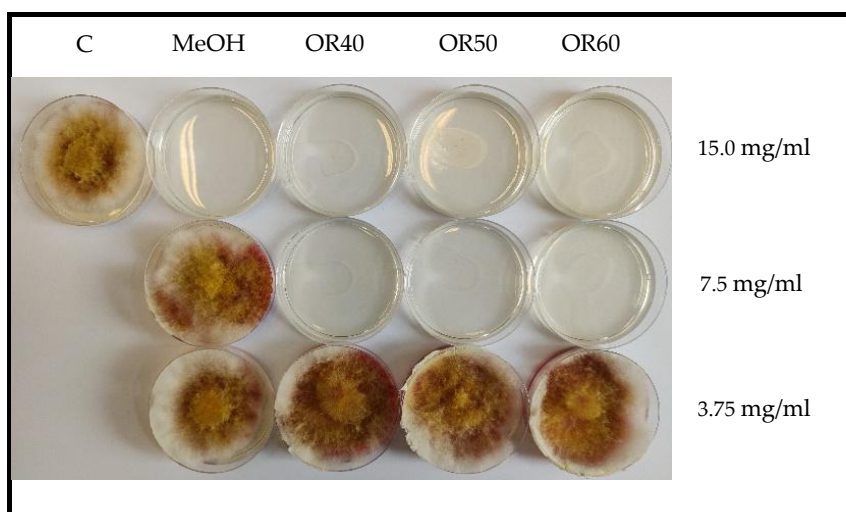


Fig.S1. Fungistatic activity of tested oregano SC-CO₂ extracts against *F. graminearum* (C – control; MeOH – methanol at concentration 25%, 12.5% and 6.25% respectively; OR40, OR50, OR60 – oregano SC-CO₂ extracts)

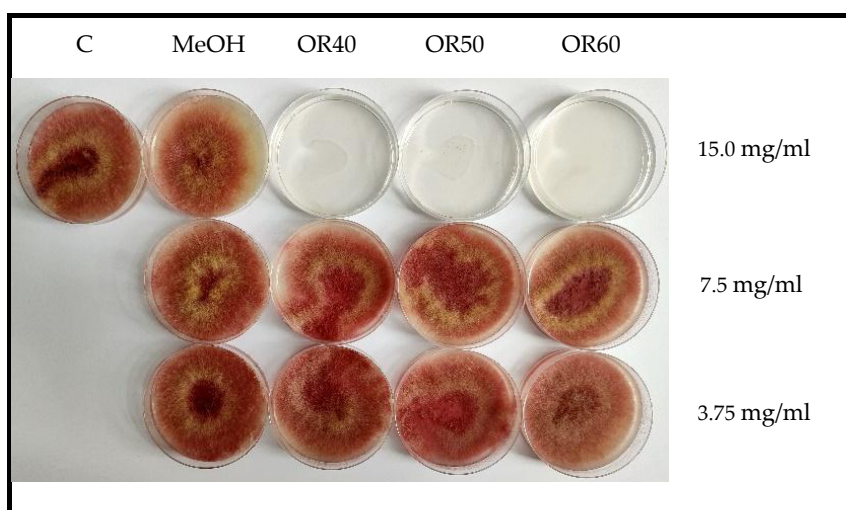


Fig.S2. Fungistatic activity of tested oregano SC-CO₂ extracts against *F. culmorum* (C – control; MeOH – methanol at concentration 25%, 12.5% and 6.25% respectively; OR40, OR50, OR60 – oregano SC-CO₂ extracts)

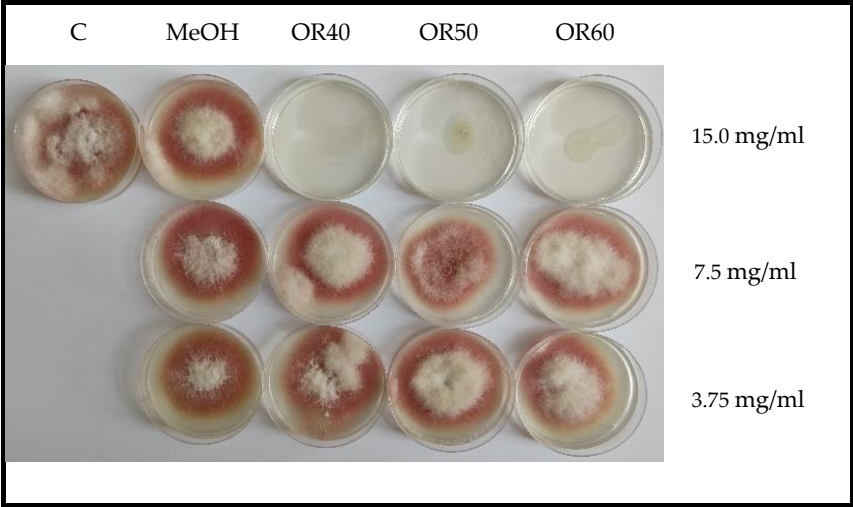


Fig.S3. Fungistatic activity of tested oregano SC-CO₂ extracts against *F. poae* (C – control; MeOH – methanol at concentration 25%, 12.5% and 6.25% respectively; OR40, OR50, OR60 – oregano SC-CO₂ extracts)

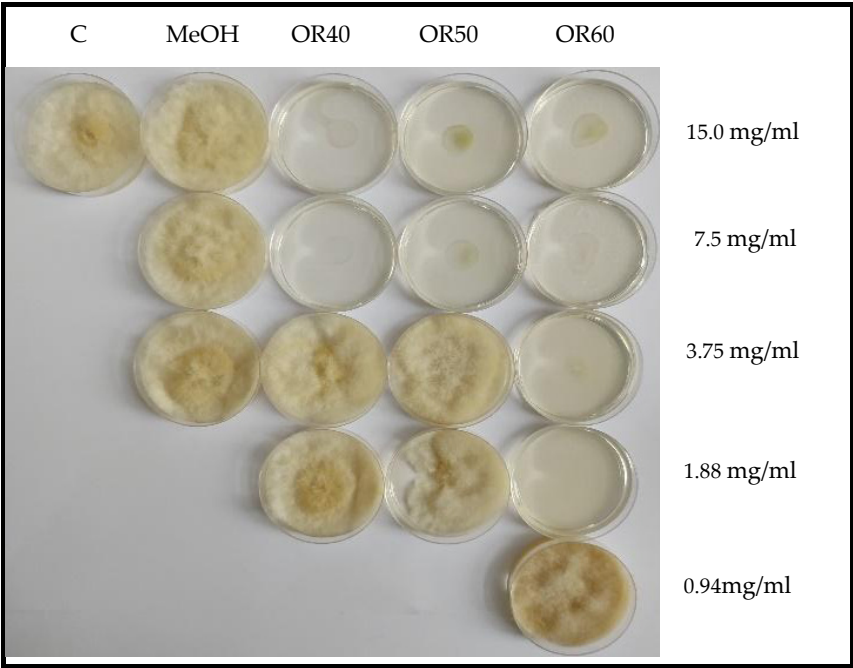


Fig.S4. Fungistatic activity of tested oregano SC-CO₂ extracts against *F. equiseti* (C – control; MeOH – methanol at concentration 25%, 12.5% and 6.25% respectively; OR40, OR50, OR60 – oregano SC-CO₂ extracts)

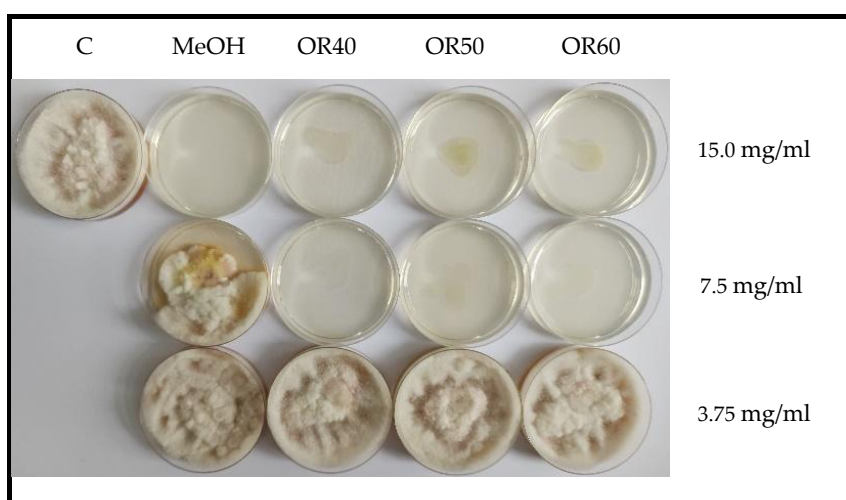


Fig.S5. Fungistatic activity of tested oregano SC-CO₂ extracts against *F. avenaceum* (C – control; MeOH – methanol at concentration 25%, 12.5% and 6.25% respectively; OR40, OR50, OR60 – oregano SC-CO₂ extracts)