

Antimicrobial Activity of Olive Mill Wastewater Fractions

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Abstract : Oil mill wastewater (OMW) is a major effluent of the olive industry resulting from olive oil extraction which is a great source for the development of new drugs. The present study aimed to evaluate the antimicrobial activity of seven different fractions separated from OMW extract. The sample was recovered from an oil mill in the Blida region (Algeria). A crude ethyl acetate extract was prepared from OMW according to a well-established protocol; the yield of the extract obtained was 4%. From the extract, different fractions were prepared by fractionating the total extract with an open column chromatography. The obtained fractions were submitted to antimicrobial activity screening in a comparative purpose. All the fractions obtained show great antimicrobial potential. Phytochemical study of the different fractions was assessed by evaluating the total phenolic compounds for all fractions studied as the main compounds found in OMW were phenols like hydroxytyrosol, tyrosol, phenolic acids like caffeic, quinic and ferulic acids which show great therapeutic activities.

Keywords : olive mill wastewater, fractionation, total phenolic compound, antimicrobial activity

Conference Title : ICWPRW 2023 : International Conference on Water Pollution, Recycle and Wastewater

Conference Location : London, United Kingdom

Conference Dates : October 16-17, 2023