

THE EFFECT OF MODIFIED ALUMINOSILICATE LAMELAE ON PROTEIN AND POLYPHENOLIC COMPOUNDS IN WHITE WINE

Andreea HORTOLOMEU^{1*}

Diana-Carmen MIRILĂ¹

Sid Ahmed ELHABIRI²

Mohamed Amine DIDI²

Yury SCUTARU³

Rodica STURZA³

Ileana-Denisa NISTOR¹

Abdelkrim AZZOUZ⁴

¹*Laboratory of Catalysis and Microporous Materials, Department of Environmental Engineering, Faculty of Engineering, "Vasile Alecsandri" University of Bacău;*

²*Laboratory of separation and purification technologies, Department of Chemistry, Faculty of Sciences, University Abou Bekr Belkaid of Tlemcen, Algeria;*

³*Department of Oenology and Chemistry, Faculty of Food Technology, Technical University of Moldova, Chişinău, Republic of Moldova;*

⁴*University of Quebec at Montreal, Nanoqam, Department of Chemistry, Montreal, QC H3C 3P8, Canada;*

*Corresponding author: Andreea Hortolomeu, hortolomeuandreea@gmail.com

The wine is made up of a mass of organic substances obtained by alcoholic fermentation. In order to preserve the organoleptic qualities of a young white wine, it is necessary to treat it with different clarifying materials (pectolytic enzymes, gelatin, egg white, casein, fish glue, etc.). Wine fining is one of the most used procedures for clarifying and organoleptic stability of wines. Among the known gluing materials, the most used are those based on aluminosilicates. For the treatment of a local white wine (Sauvignon Blanc), European sodium bentonite solutions were chosen as working materials. This type of inorganic material was modified by the cation exchange process and divided into three fractions. The aim of this paper is to ascertain which of the materials used has the highest possible efficiency on wine proteins and to observe their effect on other specific compounds in vinification. For this, a series of analyzes were performed for a young white wine, before and after its treatment with clay solutions: nephelometric, pH measurement, oxidability and protein stability tests, UV-VIS. After performing the aforementioned tests, it was found that regardless of the concentrations of sorbents added to the wine, the first fraction of cationically exchanged bentonite showed the most promising results on the wine from an organoleptic point of view.

Keywords: *white wine, oxidation, cinnamic compounds, aluminosilicates.*