

5TH INTERNATIONAL CAPARICA CHRISTMAS
CONFERENCE ON
SAMPLE TREATMENT

15TH - 18TH NOVEMBER 2021
CAPARICA | PORTUGAL

BOOK OF ABSTRACTS

ST 2021

5th International Caparica Christmas Conference
on Sample Treatment

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Hotel Aldeia dos Capuchos Golf & SPA

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P.02 – Integration of dry-column flash chromatography with NMR and FTIR metabolomics to reveal cytotoxic metabolites from *Amphoricarpos autariatus*

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A large number of plant metabolites has provided an incomparable chemical source of the pharmaceutical products.[1] The two major fields of chemical research on biological active small molecules, metabolomics and natural product discovery, have the similar goals of identifying and characterizing small molecules, either in their isolated active state (natural product chemistry).[2] Metabolomics generate a profile of small molecules from plant extracts, which could be directly responsible for bioactivity effects. Using dry-column flash chromatography enable a rapid and inexpensive method for the very efficient separation of plant extract with a high resolution. This separation method coupled to NMR and FTIR-based metabolomics is applied to identify bioactive natural products. OPLS multivariate analysis method, was used for correlation the chemical composition of the plant extracts, *Amphoricarpos autariatus*, with the results of cytotoxic activity against Human cervical adenocarcinoma cell line (HeLa) and epithelial lung cancer cell line (A549). In this way, the highest contribution to the cytotoxic activity was recorded for the guaianolide sesquiterpene lactone were tested, and their cytotoxic activity were conformed.

References

[1] N.D. Yuliana, A. Khaatib, R. Verpoorte, Y.H. Choi, Anal. Chem. 83 (2011) 6902-6906.

[2] J.L. Markley, R. Bruschweiler, A.S. Edison, H.R. Eghbalnia, R. Powers, D. Raftery, D.S. Wishart. Curr. Opin. Biotechnol. 43 (2017) 34-40.

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