

# Characterization of Bioactive Compounds Extracted from By-products of *Matricaria Recutita* Essential Oil Distillation Processes with Potential Use as Cosmetics Ingredients

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# Aim of research

The objective of this research is to characterize bioactive compounds for potential use in cosmetics extracted from by-products of *Matricaria recutita* essential oil distillation process.



*Matricaria recutita*



99.9 %

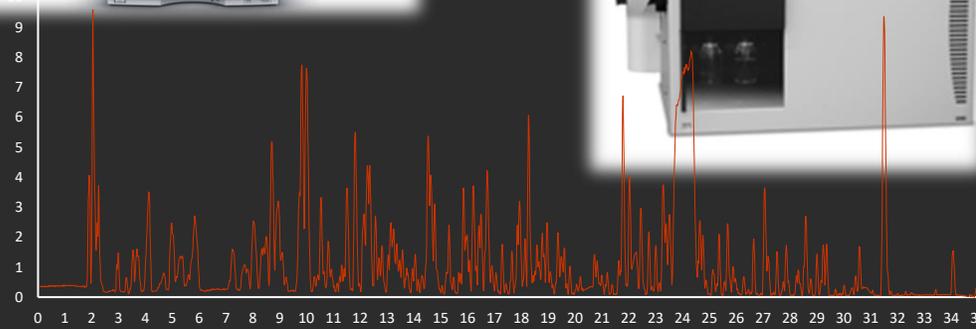
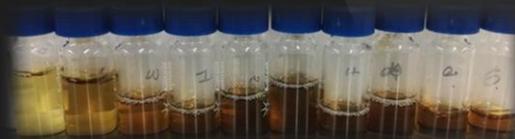


**White petals**



**Biomass after essential oil distillation**

# Methods and Materials



## Biomass extraction

Hot water extraction 85C

45 min

## Chemical characterization

LC-HRMS & METLIN

## Cytotoxicity assays

Balb/c3T3 fibroblast cell  
line

# Results

## Cytotoxicity assays

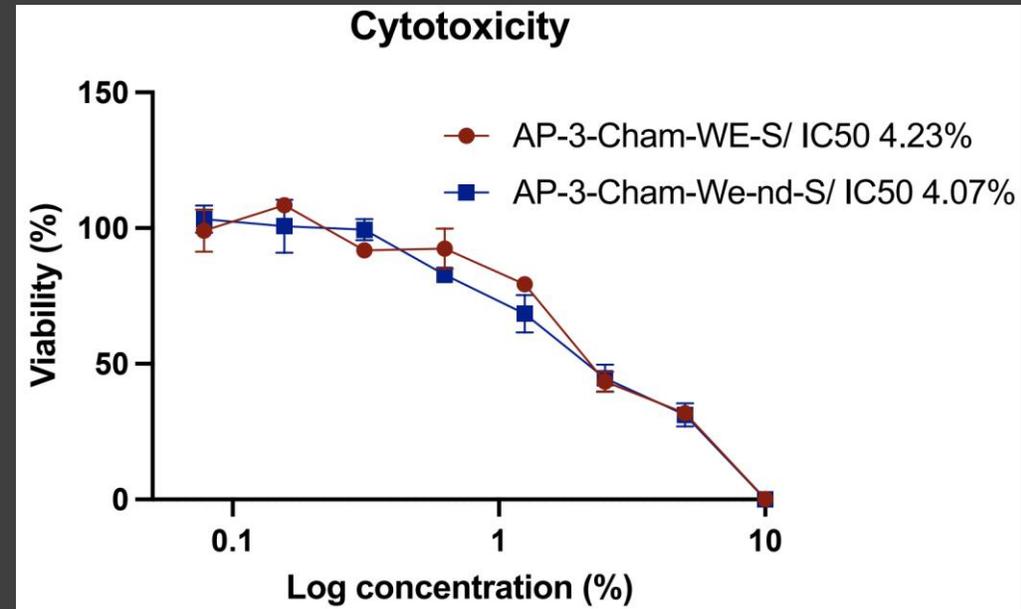


Figure 1.

Tested extracts show good safety profile in cytotoxicity tests.

Preliminary tests also indicate on potential photoprotective and antimicrobial activities

## Chemical characterization

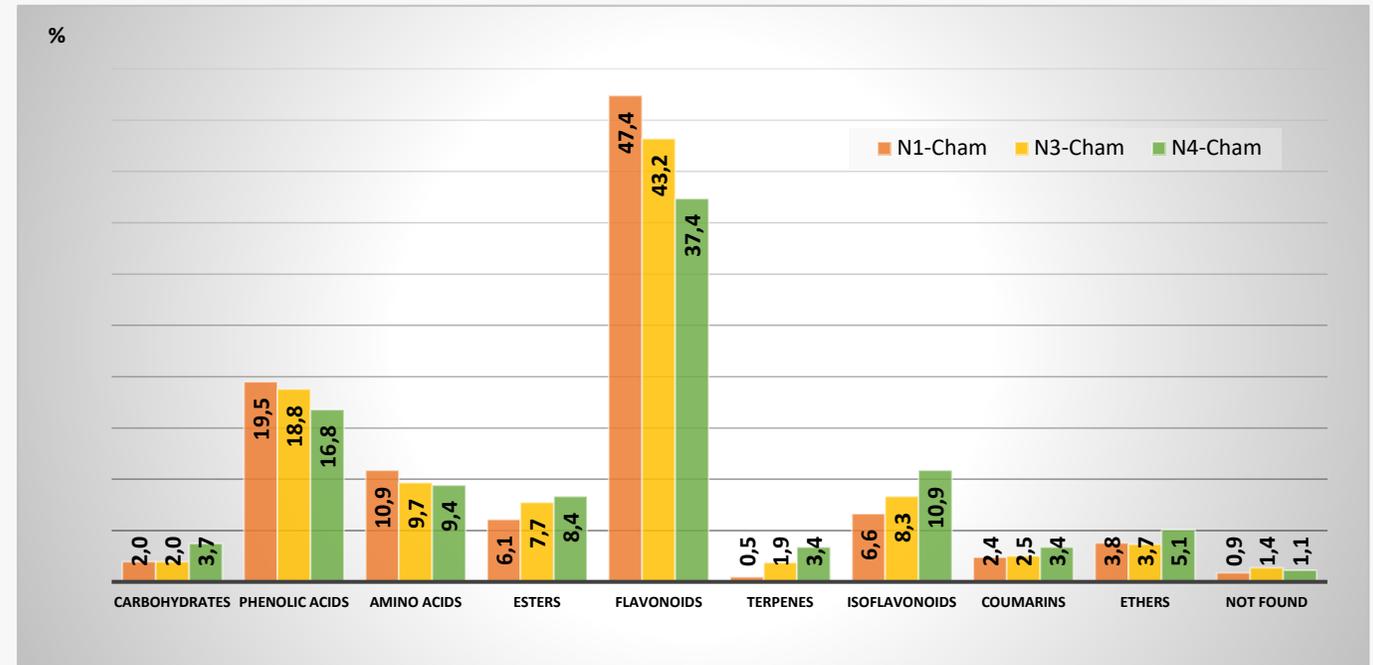


Figure 2.

More than 70 different bioactive compounds were isolated, including sugars, amino acids, derivatives of ferulic acid, coumarin, quercetin, apigenin, as well as terpenes, saponins and tannins.



# Conclusions

**Herbal waste remaining from the *Matricaria recutita* essential oil distillation processes is found to be a rich source of valuable biologically active substances.**

- In total more than seventy bioactive compounds were identified in the *Matricaria recutita* by-product extracts.
- Most dominant compounds are different flavonoid derivatives.
- *M.recutita* water extracts have a good safety profile in cytotoxicity tests.
- Preliminary data indicate on the potential skin health promoting activities that still need to be thoroughly tested.

**Ačiū už dāmesj!**

## ACKNOWLEDGMENTS

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