

Antibacterial and Antibiofilm Effects of Different Types of Honey Against Bacteria Isolated from Chronic Wound Infections

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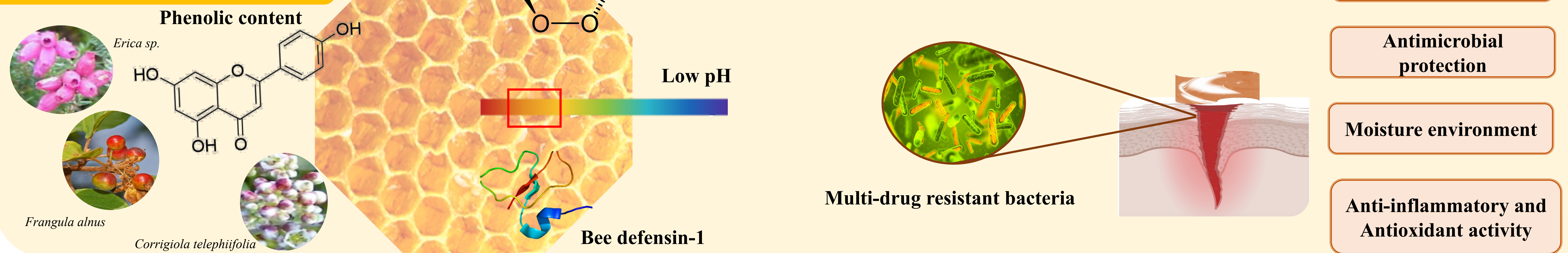
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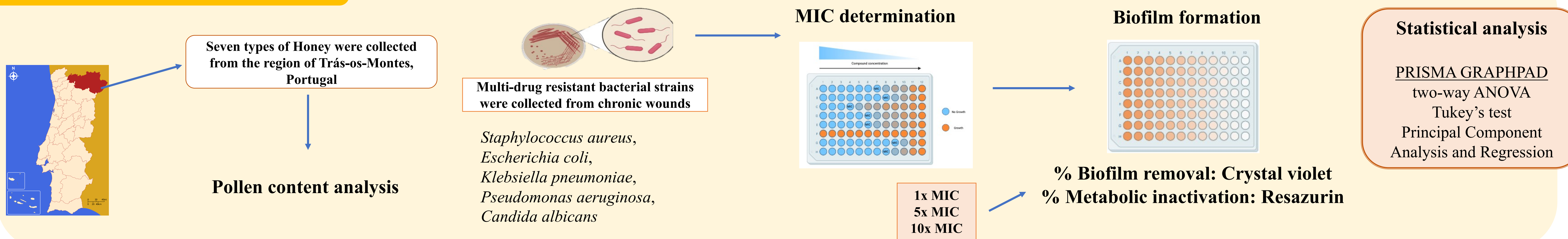
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Introduction



Methods



Results

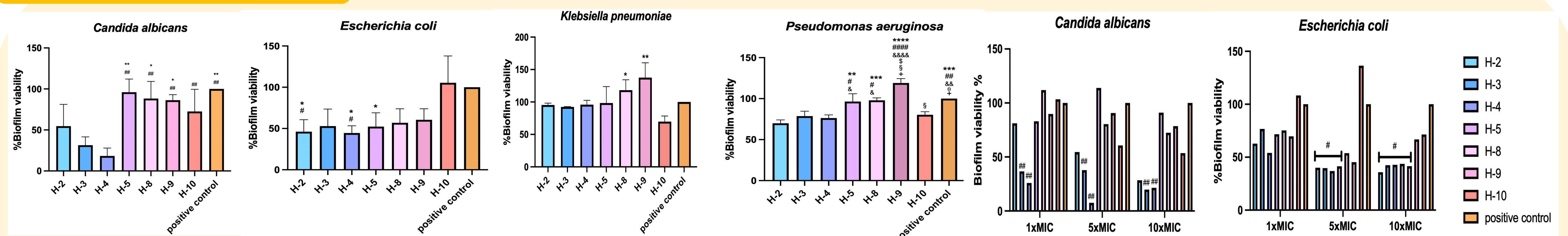


Figure 1: Percentage of biofilm removal treated with different types of honey at different concentrations. A: * comparison with H-3 and # comparison with H-4. B: comparison with H-10 and # comparison with control. * C: comparison with H-2, # comparison with H-3, & comparison with H-4, \$ comparison with H-5, § comparison with H-8, ° comparison with H-9, + in comparison with H-10. D: * comparison with H-10. E: no differences. F: # comparison with control group. *, #, &, \$, §, °, + for (p<0.05) and **, ##, &&, §§, °°, ++ for (p<0.01). Abbreviations: MIC: minimum inhibitory concentration

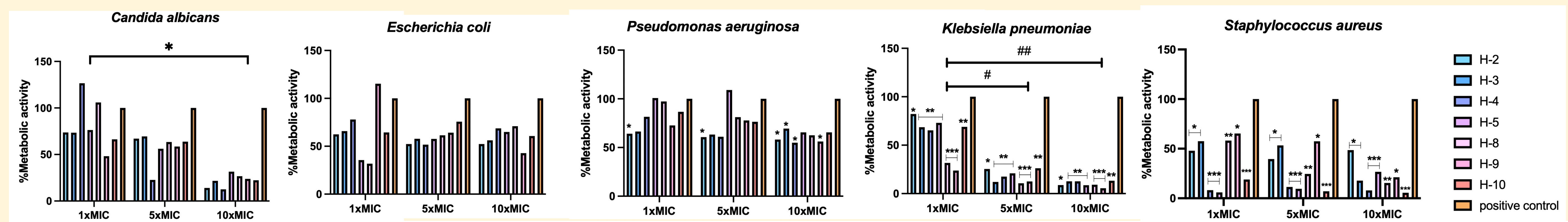
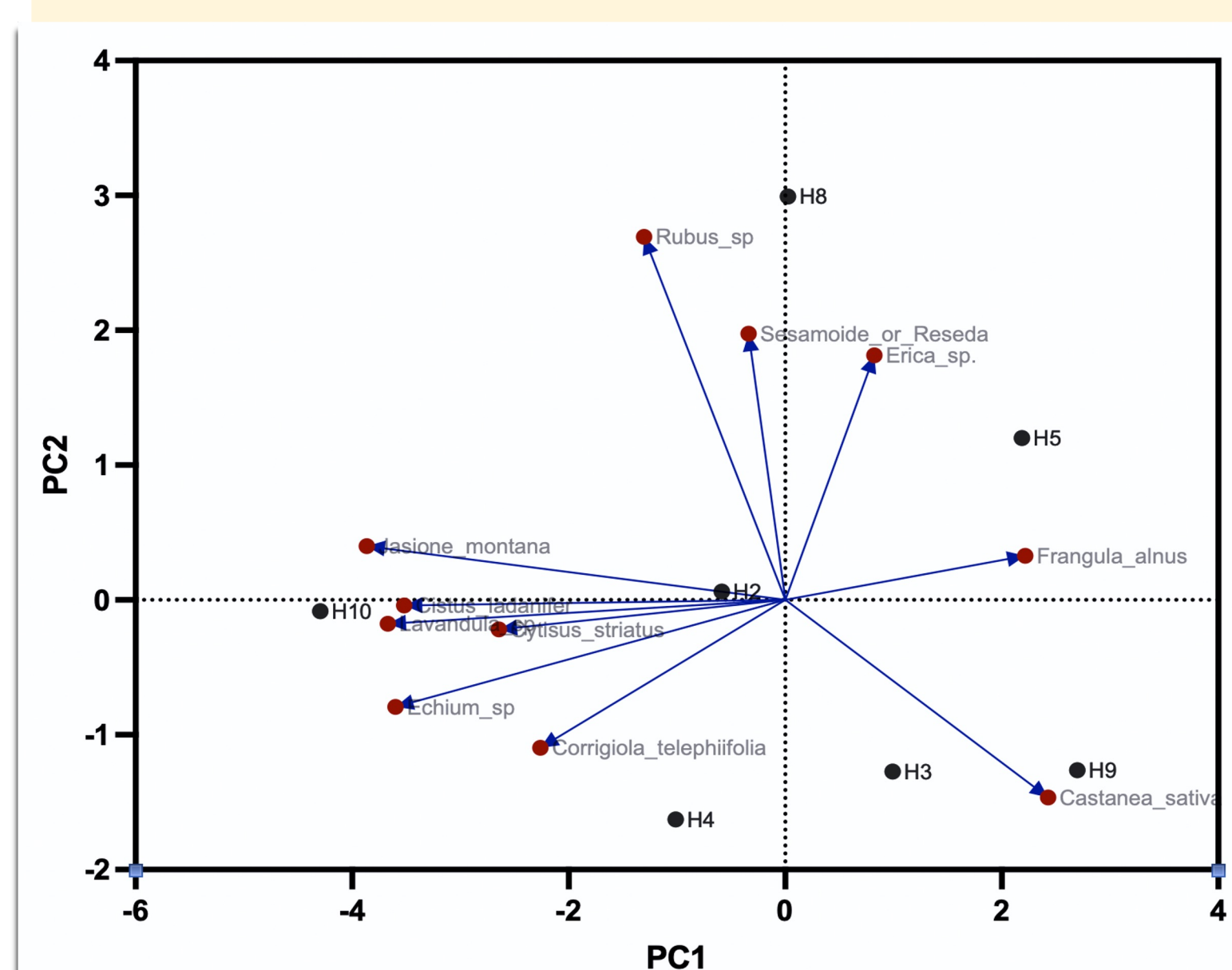


Figure 2: Percentage of metabolic inactivation treated with different types of honey at different concentrations. A: * comparison between concentrations. B: no differences were found. C: * comparison with positive control. D: # comparison with positive control and # for comparison between concentrations. E: * comparison with control group. *, # for (p<0.05) and **, ## for (p<0.01) and ***, ### for (p<0.001). Abbreviations: MIC: minimum inhibitory concentration



The Principal Component Regression was significant with a moderate correlation between biofilm removal and pollen content ($p=0.0366$; $R^2=0.385$).

Positive correlations:
Corrigiola telephifolia ($p=0.005$);

Negative correlations:
Erica sp. ($p=0.005$);
Frangula alnus ($p=0.01$).

Conclusion: Honey was effective to remove multi-drug resistant bacterial biofilm and to inactivate their metabolism, especially at higher concentrations. Differences in bacterial responses may be due to variations in honey's pollen content and bacterial strain sensitivity.

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