

peel extracts by microencapsulation with proteins as wall materials

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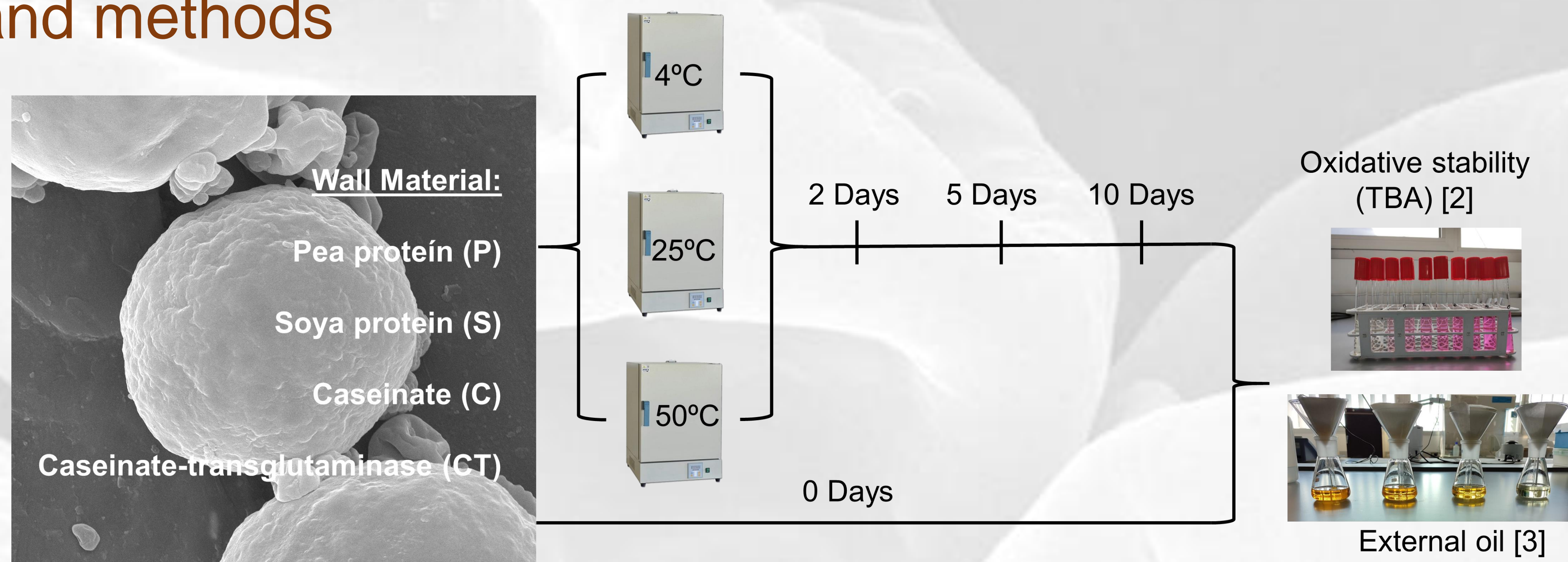
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Introduction

Microencapsulation of natural antioxidants from by-products of the agroindustry is attracting attention nowadays, due to the limited stability of these bioactive compounds and the use of valuable resource. Saccharides, especially maltodextrin, have been extensively used as wall of the microcapsules, while proteins and enzymes have been less studied [1]. Therefore, the objective of the study is to verify the stability of capsules with different wall materials subjected to different storage conditions.

Material and methods



All analyzes were performed in triplicate.

Results and discussion

The type of microcapsule influence on both external fat and oxidation levels, being higher in S and P than in C and CT. Storage of microcapsules did not significantly modify oxidation levels but it affected the external fat, being higher in stored microcapsules than in the control batch. This effect was more marked in S and P than in C and CT microcapsules, but no statistical differences were found among microcapsules subjected to different temperature and times.

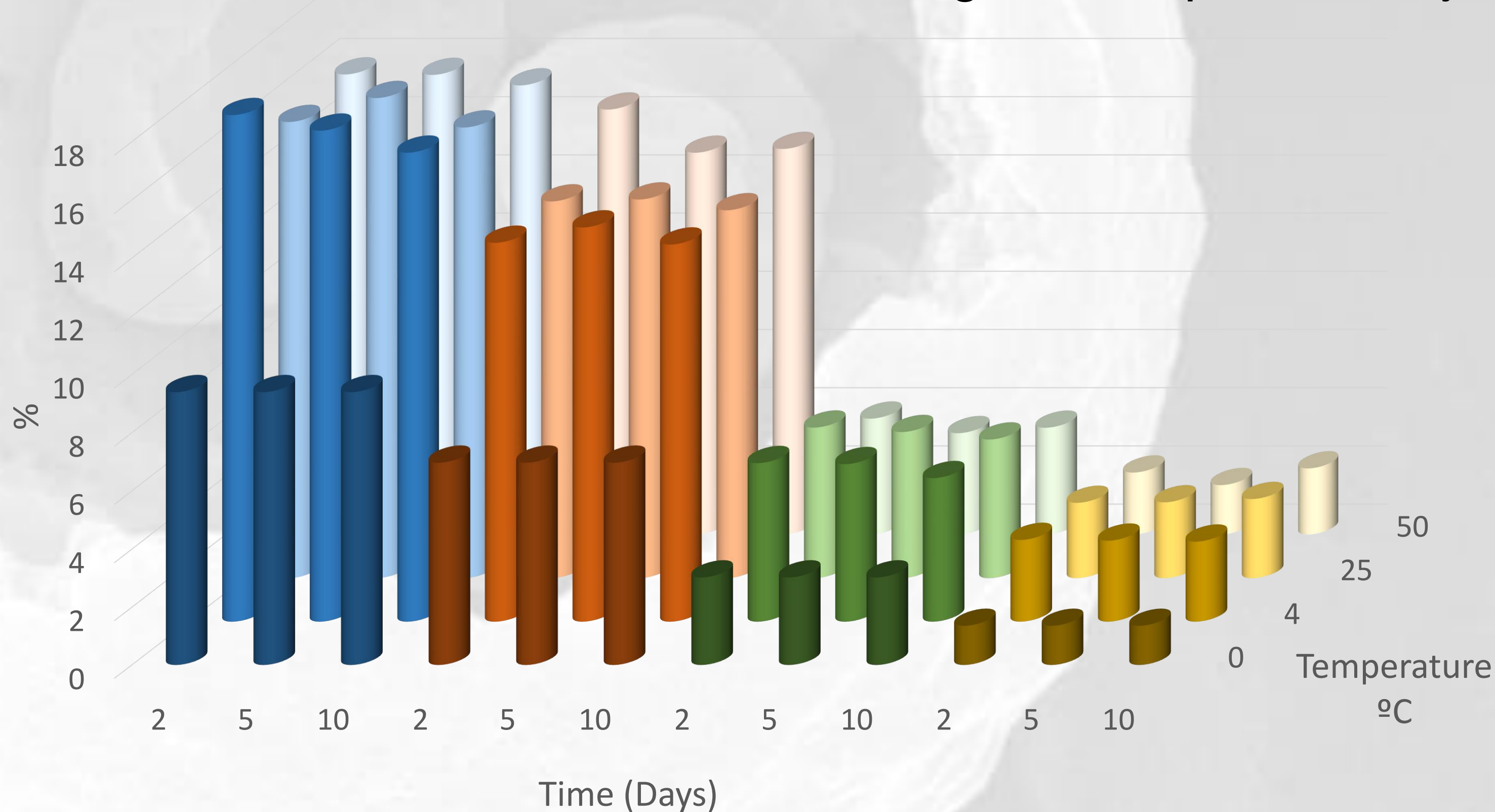


Figure 1: Percentage of external oil present in tomato peel extracts microencapsulated with proteins as wall mat. Blue P, orange S, green C and yellow CT

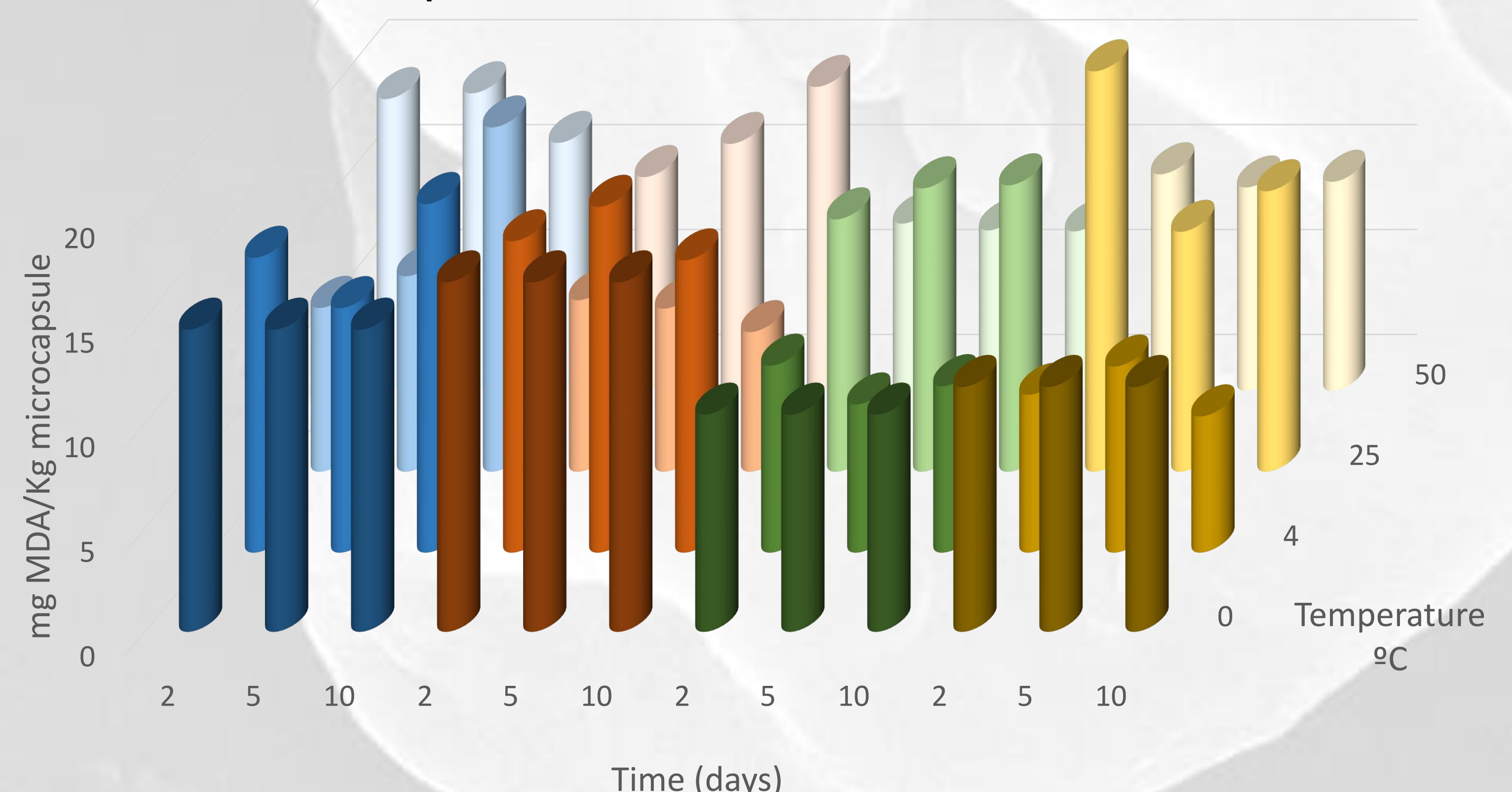


Figure 2: TBA values in tomato peel extracts microencapsulated with proteins as wall mat. Blue P, orange S, green C and yellow CT.

Conclusion

These results point out the antioxidant efficacy of tomato peel extracts to get lipid oxidation stability as well as the influence of the wall material to avoid the oil release from the inner of the microcapsules, which is favoured during storage independently of storage conditions. In this sense, the use of C and CT as wall material seem to be more appropriate than S and P proteins.

Bibliography

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