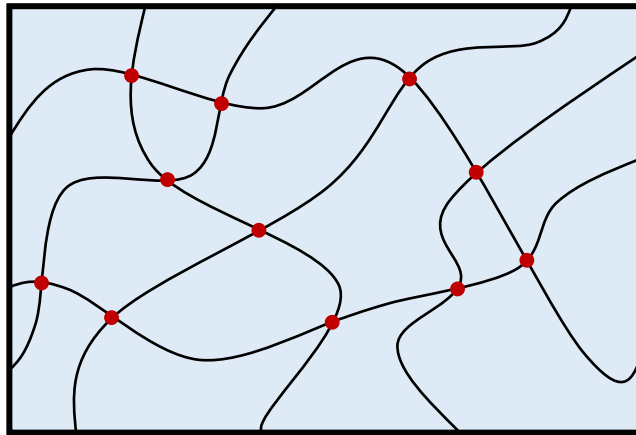





Underwater Adhesion and Mechanical Properties of Catechol- modified Alginate Hydrogels

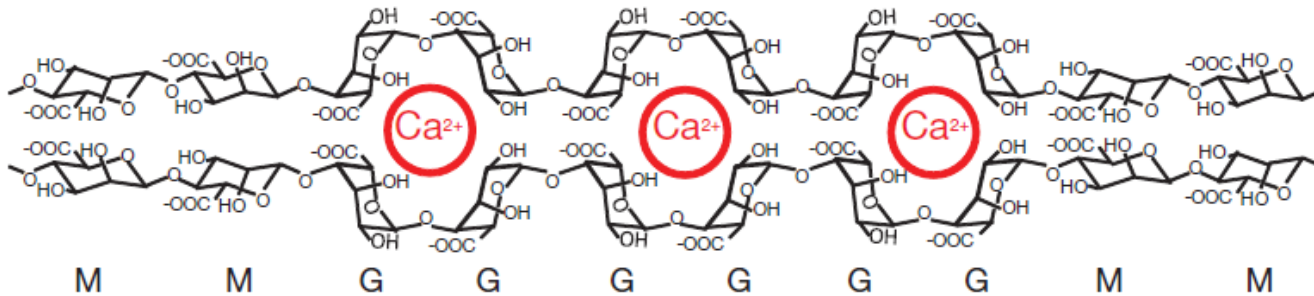
Aleksander Cholewinski
Supervisor: Dr. Boxin Zhao

Hydrogels - Applications

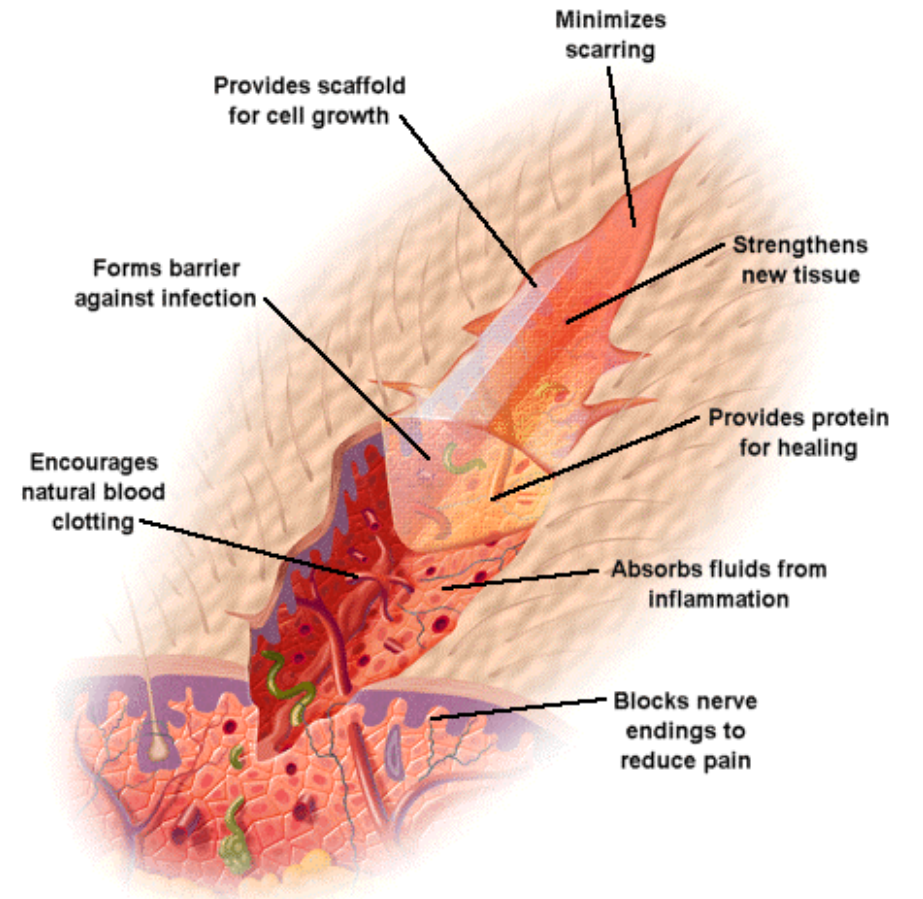


-  Polymer chain
-  Crosslink
-  Water

General hydrogel structure

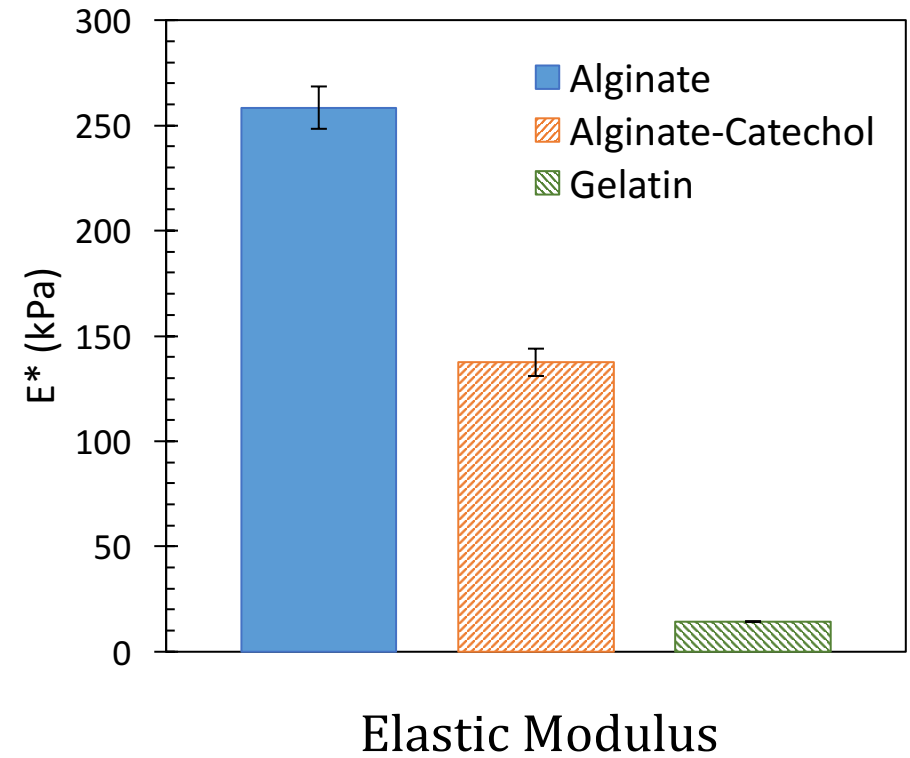
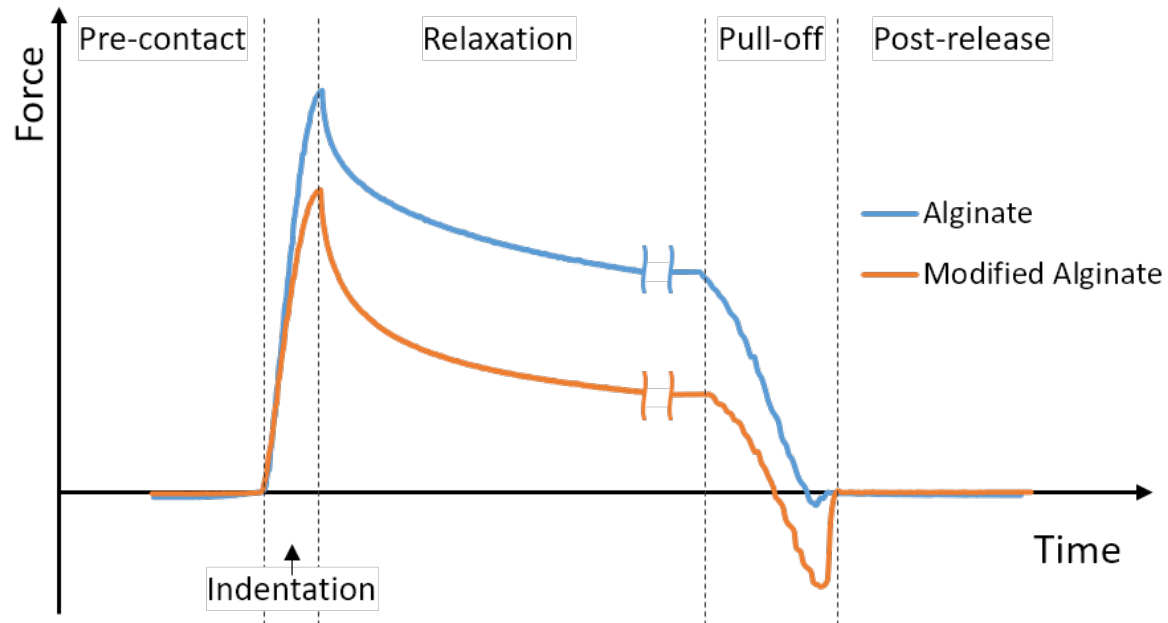
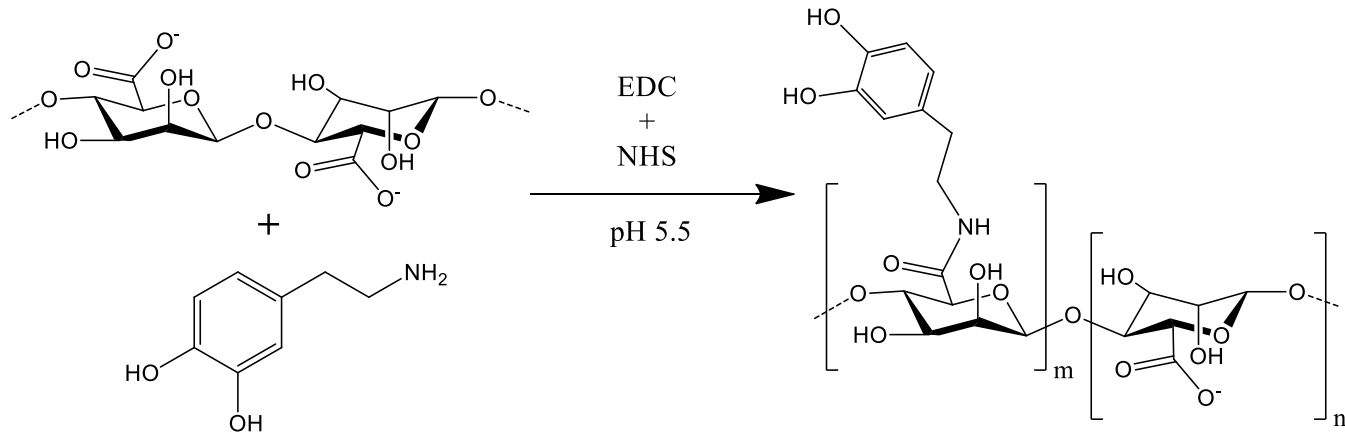


Alginate crosslinking

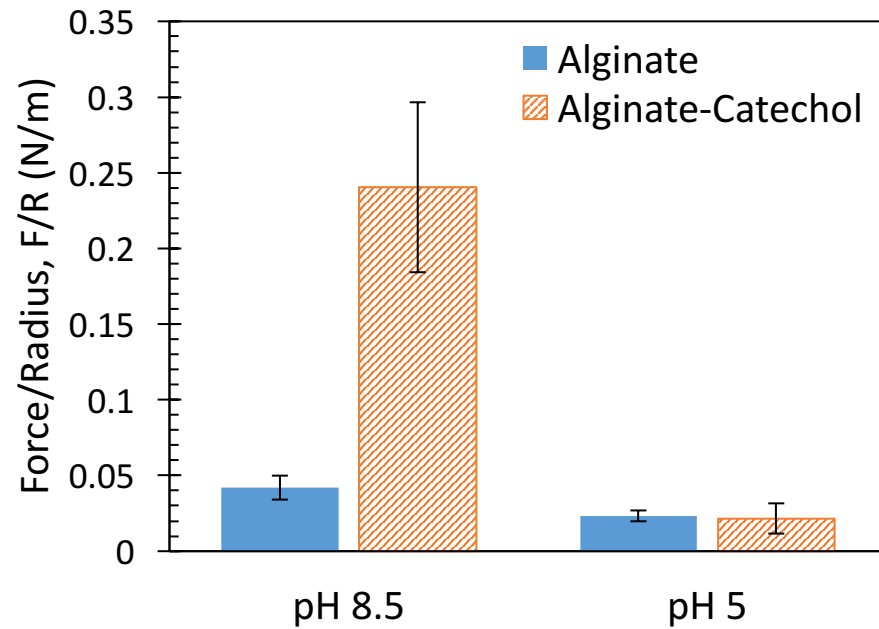


Potential advantages from wound dressings

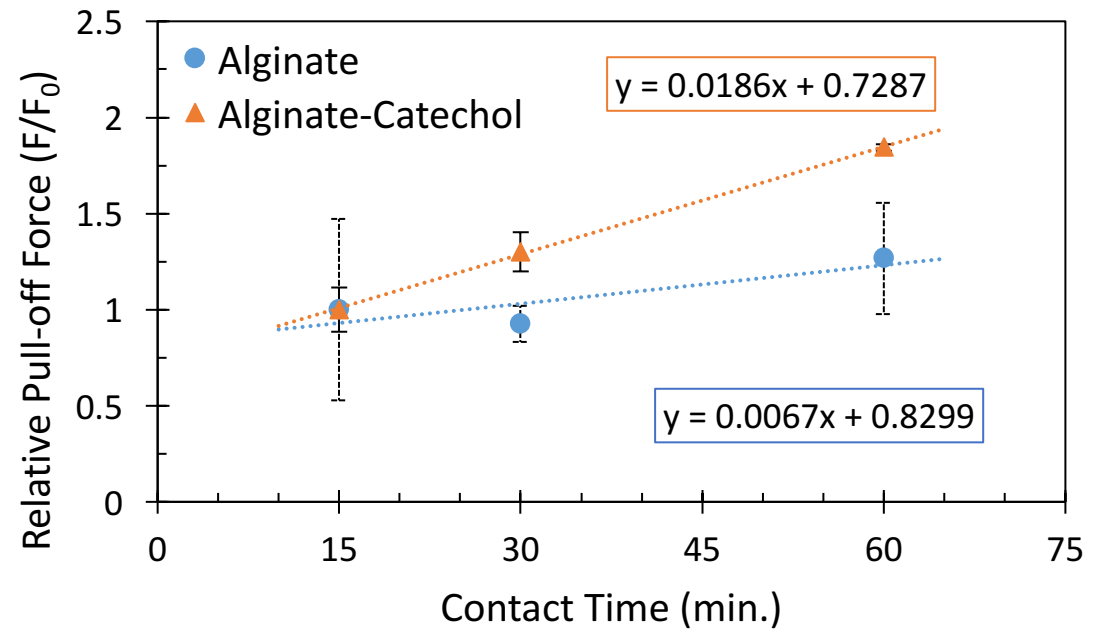
Catechol Modification of Alginate



Adhesive Behaviour

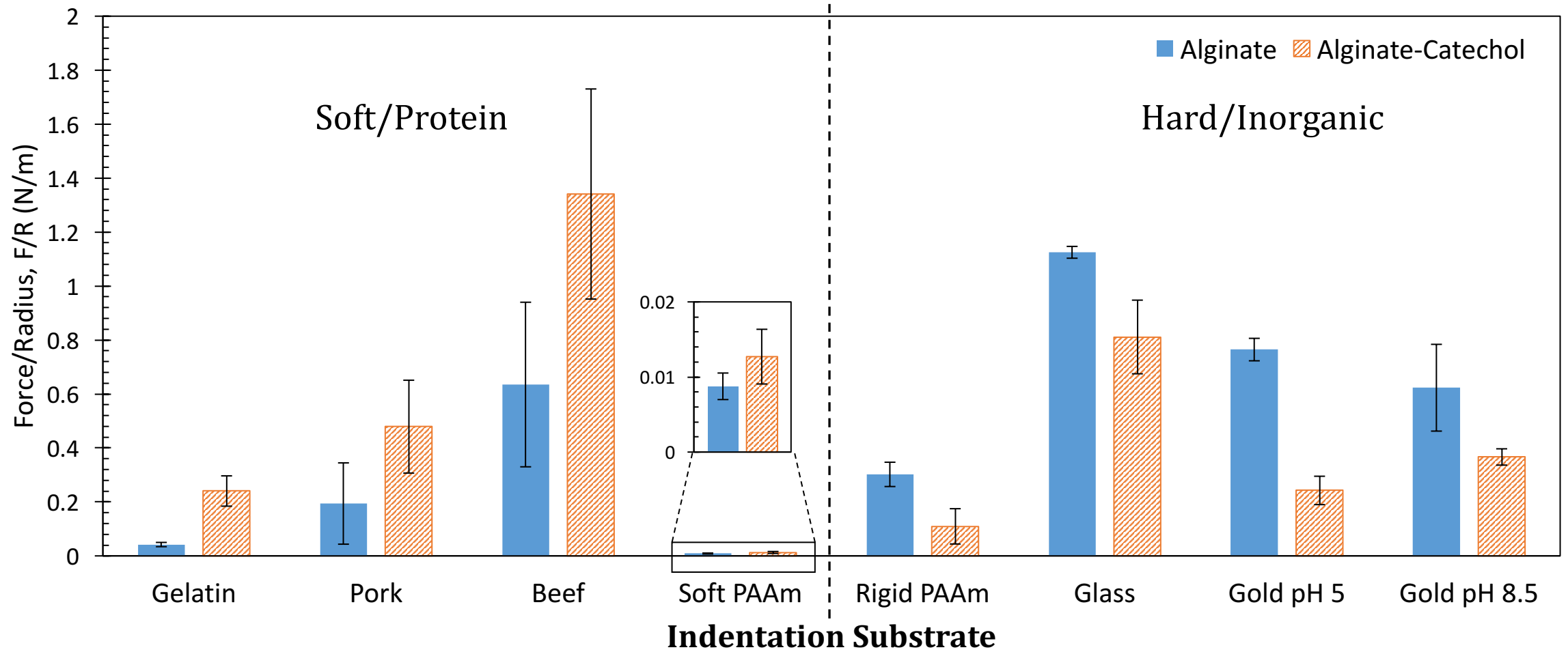


pH-dependence



Time-Dependence

Adhesion to Substrates



Conclusions

Catechol modification improved adhesion of alginate hydrogel to soft, tissue-like substrates. However, modification also reduced the elastic modulus, which lowered adhesion to hard substrates.

Acknowledgements



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