

Development and Characterization of an Injectable Alginate/Chitosan Composite Hydrogel Reinforced with Cyclic-RGD Functionalized Graphene Oxide for Potential Tissue Regeneration Applications

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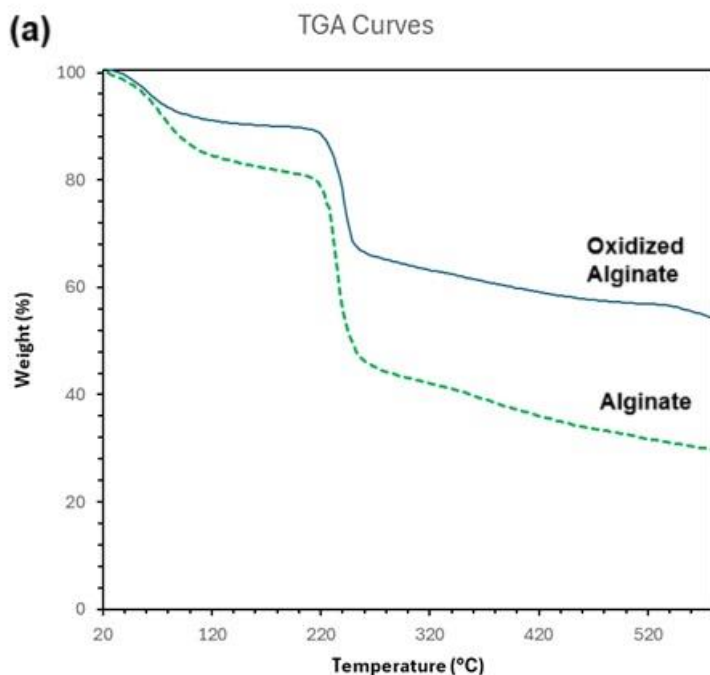
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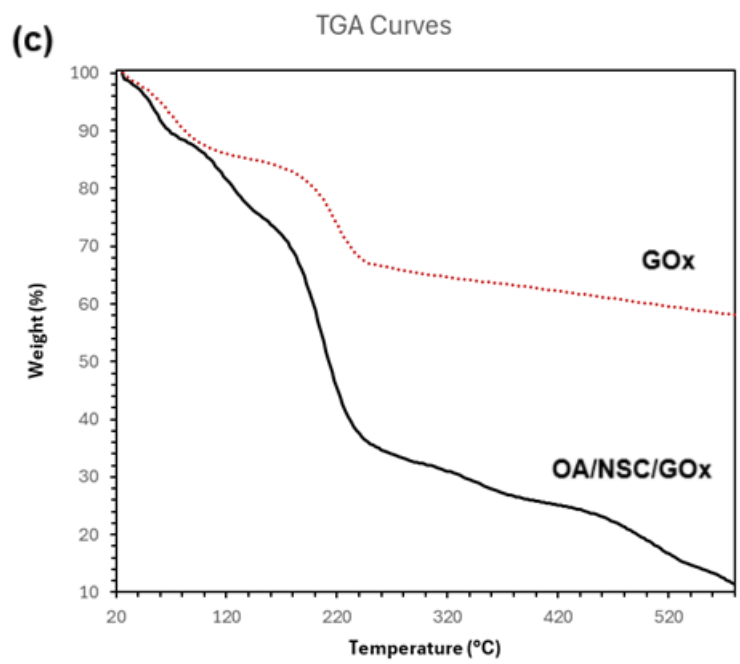
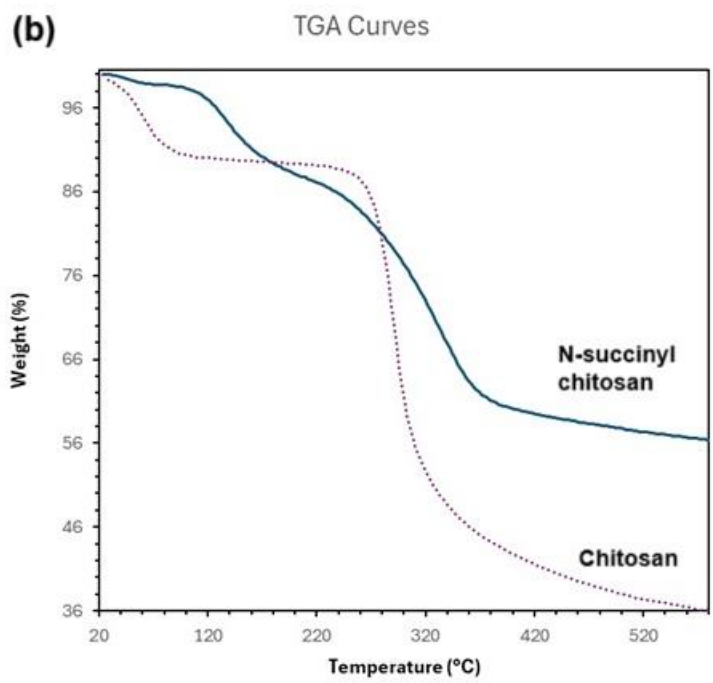
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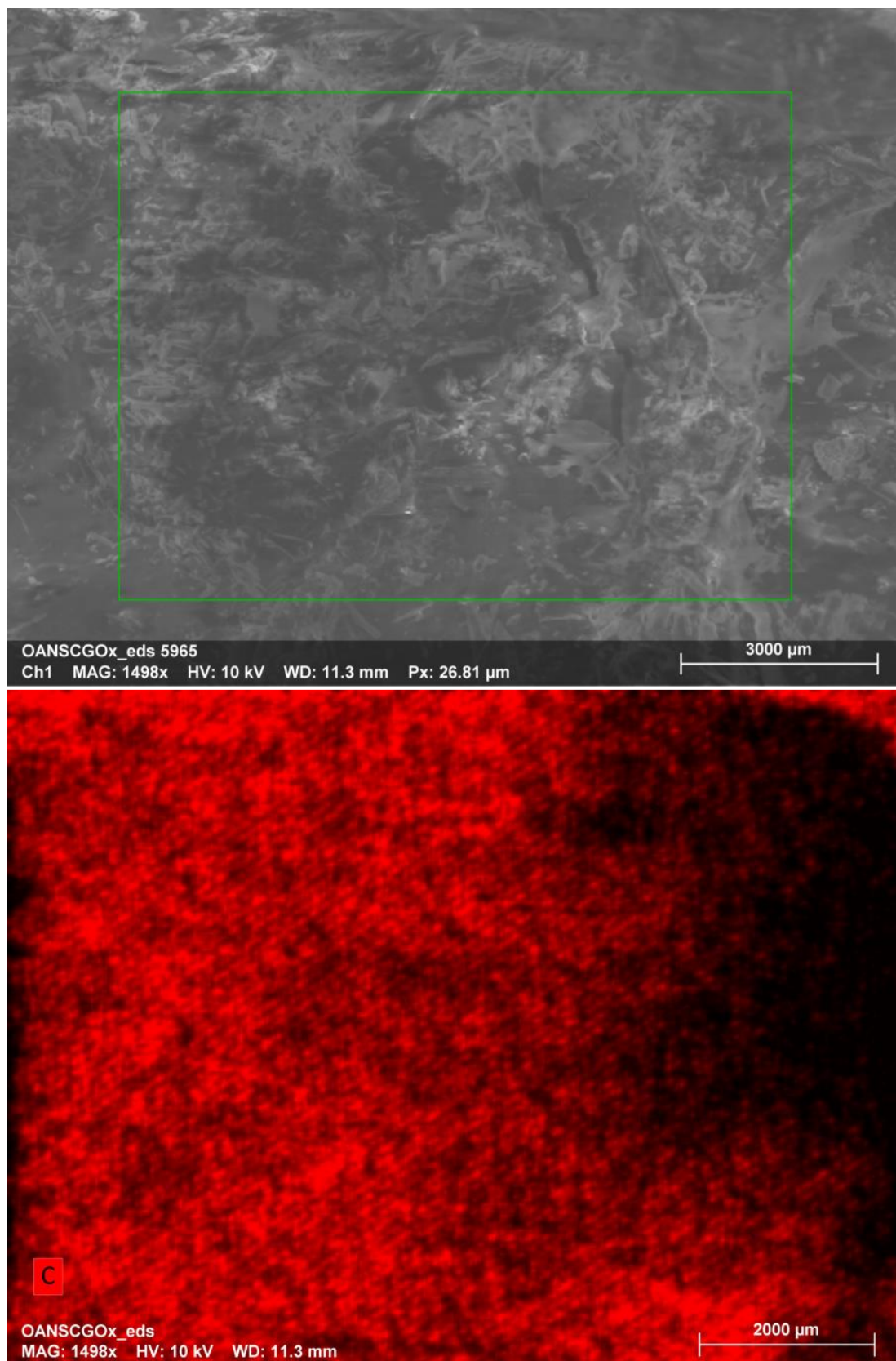
TGA Analysis

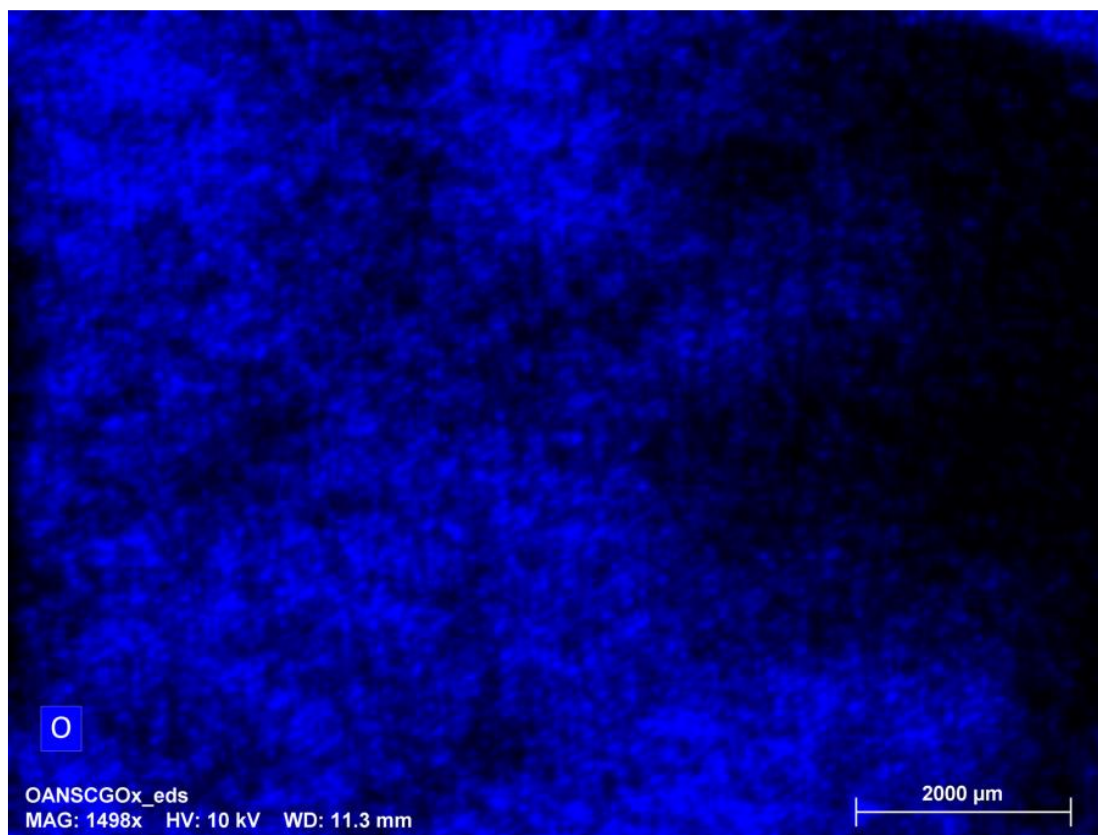
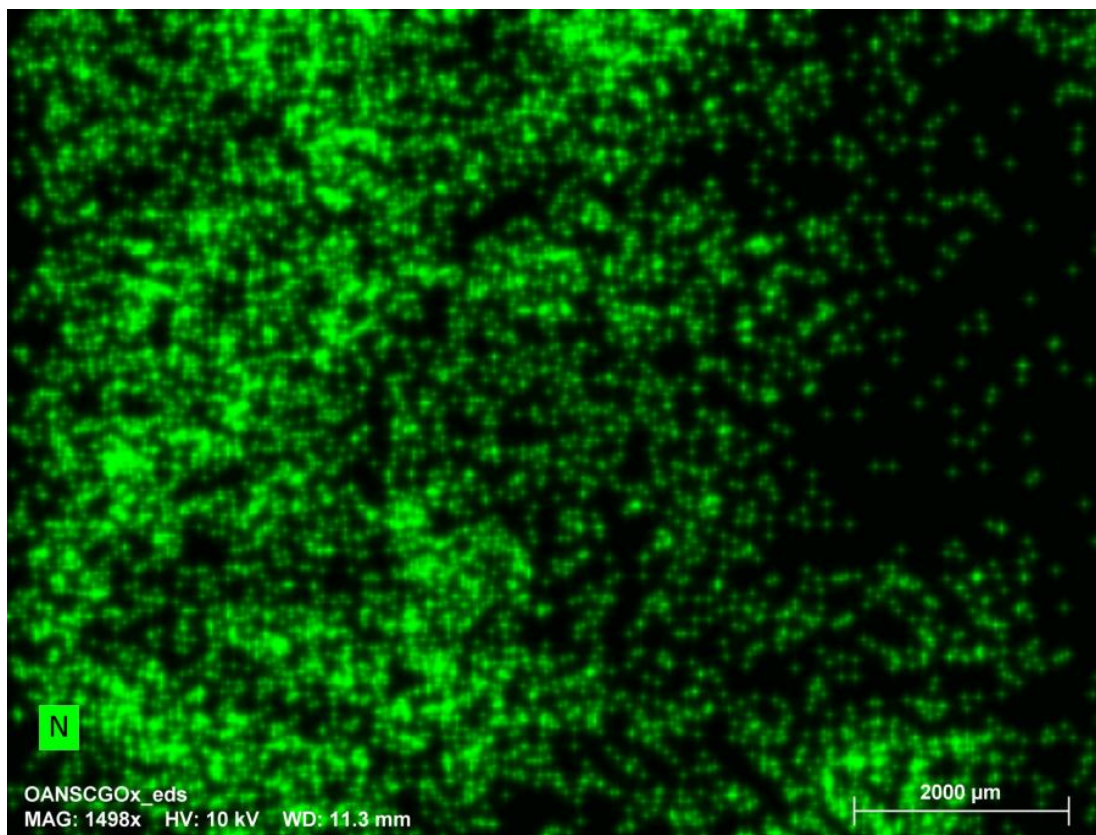
Comparatives TGA curves for: a) alginate and oxidized alginate (OA); b) chitosan and N-succinyl chitosan (NSC); (c) graphene oxide (GOx) and OA/NSC/GOx hydrogel composite





2D EDS mapping of the OA/NSC/GOx hydrogel composite





Product Information for sodium alginate (as provided by the supplier):

SIGMA-ALDRICH®

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com

Email USA: techserv@sial.com

Outside USA: eurtechserv@sial.com

Product Specification

Product Name:

Alginic acid sodium salt from brown algae – Medium viscosity

Product Number:

A2033

CAS Number:

9005-38-3

MDL:

MFCD00081310

Storage Temperature:

2 - 8 °C

TEST

Specification

Appearance (Color)

White to Beige and Faint Brown to Brown

Appearance (Form)

Powder

Solubility (Color)

Faint Yellow to Yellow

Solubility (Turbidity)

Slightly Hazy to Very Hazy

100 mg plus 10 mL of Water

Brookfield Viscosity

≥ 2000 cps

2% in water at 25 Deg C

Recommended Retest Period

2 Years

Specification: PRD.1.ZQ5.10000009292

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Product Information for chitosan (as provided by the supplier):



Sigma-Aldrich

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com

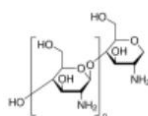
Email USA: techserv@sial.com

Outside USA: eurtechserv@sial.com

Product Specification

Product Name:
Chitosan - medium molecular weight

Product Number: 448877
CAS Number: 9012-76-4
MDL: MFCD00161512
Formula: C₁₂H₂₄N₂O₉



TEST

Specification

Appearance (Color)

Off White to Beige and Faint Brown to
Light Brown

Appearance (Form)

Conforms to Requirements

Powder and/or Chips

Deacetylation

≥ 75 %

Viscosity

200 - 800 cps

c = 1%, 1% Acetic Acid

Specification: PRD.2.ZQ5.10000030084

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

