



enformation

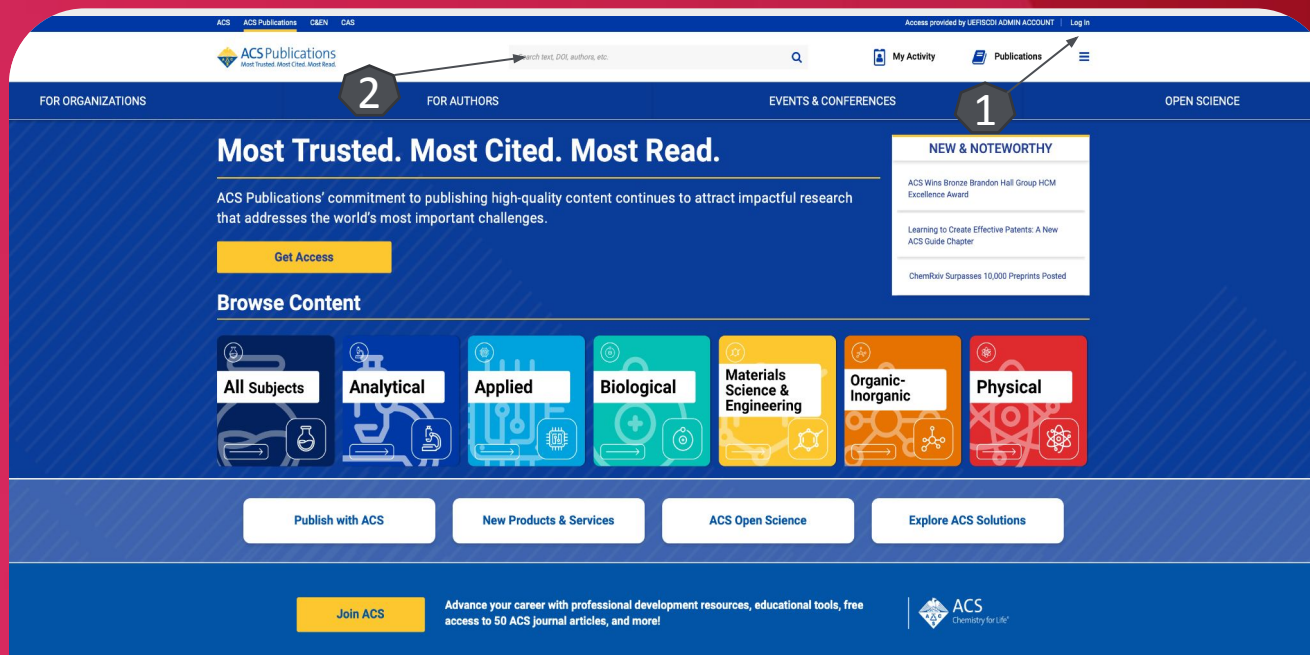
Ghid de utilizare



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Pagina principală

- ❑ Creați și accesați contul personal 1. Vă recomandăm să vă creați un cont personal și să-l accesați de fiecare dată când folosiți platforma ACS. Acest lucru permite salvarea căutărilor și personalizarea listelor de rezultate.
- ❑ Căutare rapidă 2. Puteți efectua imediat o căutare simplă, din caseta portocalie, aflată permanent în partea dreaptă a fiecărei pagini. Trebuie doar să introduceți un termen sau codul DOI și apoi să apăsați butonul „Search”.



The screenshot shows the ACS Publications homepage. At the top, there is a navigation bar with 'ACS Publications', 'OMEN', and 'CAS' on the left, and 'Access provided by UEBRIS/DOI ADMIN ACCOUNT' and 'Log In' on the right. Below this is a search bar with the placeholder text 'Search text, DOI, authors, etc.' and a magnifying glass icon. To the right of the search bar are links for 'My Activity' and 'Publications'. The main navigation bar includes 'FOR ORGANIZATIONS', 'FOR AUTHORS', 'EVENTS & CONFERENCES', and 'OPEN SCIENCE'. A large blue banner features the text 'Most Trusted. Most Cited. Most Read.' and a 'Get Access' button. To the right of the banner is a 'NEW & NOTEWORTHY' section with three items. Below the banner is a 'Browse Content' section with six subject categories: 'All Subjects', 'Analytical', 'Applied', 'Biological', 'Materials Science & Engineering', 'Organic-Inorganic', and 'Physical'. At the bottom of the banner are four buttons: 'Publish with ACS', 'New Products & Services', 'ACS Open Science', and 'Explore ACS Solutions'. Below the banner is a 'Join ACS' button and a text block: 'Advance your career with professional development resources, educational tools, free access to 50 ACS journal articles, and more!'. The ACS logo is in the bottom right corner of the banner.

ACS Editors' Choice

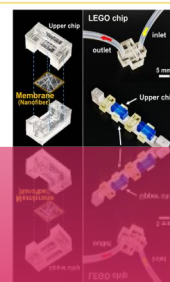
Based on recommendations from the scientific editors of ACS Journals. See all articles.



A Three-Dimensional Liquid-Based Exchangeable Gradient Osmosis Chip for a Permeability Controllable Microfluidic Device

Jae Won Choi, Jisun Lee, Jeongho Yang, Young Won Kim, Suk Hee Park, Seokbeom Kim, Sukjoon Hong, Yong Sor, Jisu Han*, and Cheol Woo Ha*

ACS Appl. Polym. Mater. (Article)
ACS Editors' Choice Date: November 3, 2021
© Cite This: ACS Appl. Polym. Mater. 2021, XXXX, XXX, XXX-XXX



❑ Opereratori Booleeni

În interiorul câmpurilor de căutare, folosirea unui operator boolean („AND”; „+”; „&”; „OR”; „NOT”; „-”) vă permite să efectuați căutări cu relație logică între termeni. Standard, între termeni este introdus operatorul „AND”, cu excepția câmpului „Author”. Pentru a căuta mai mulți autori, trebuie să introduceți între numele lor operatorul „AND”.

❑ Propoziții logice de căutare

Pentru a trece peste mecanismul standard de căutare, trebuie să puneți între ghilimele construcția de termeni căutată. Astfel, se va căuta prezența specifică a propoziției trecute între ghilimele.

❑ Folosirea semnelor

Semnele vă permit să formulați termeni cu aproximare.

Folosiți semnul întrebării (?) în locul unui caracter care poate varia și folosiți semnul asterix (*) pentru a lăsa loc de sufix. Există două limitări ale semnelor: nu se pot folosi la începutul unui termen și nici într-o propoziție aflată între ghilimele..

Lista de rezultate



The screenshot shows the ACS Publications search results page for the keyword "Acid". The page is divided into several sections:

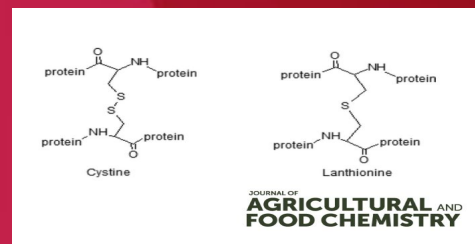
- 1**: Filter sidebar on the left, including "CONTENT TYPE", "ARTICLE SUBJECT", "PUBLICATION DATE", "TOPICS", and "CONTRIBUTOR".
- 2**: Search bar and "REFINE SEARCH" options.
- 3**: "PER PAGE" and "SORT: RELEVANCE" options.
- 4**: "Follow results" button.

The main results area displays the following articles:

- Article 1:** **SULFURIC ACID** Current Position and Outlook. Abstract: "During the war the sulfuric acid production capacity has been greatly expanded. Now, as industry plans for reconversion and military cutbacks, the question arises, Do we really have an overexpanded sulfuric acid capacity? Our author, who has been close to the situation, discusses this and presents considerable information on current plant capacity." Author: ALONZO WHITE III. *Chemical & Engineering News Archive* 1945, 23, 13, 1154-1159 (News). Publication Date (Print): July 16, 1945. DOI: 10.1021/oen-v03n013.p1154. Includes Abstract and PDF buttons.
- Article 2:** **Impact of Acid and Alkaline Pretreatments on the Molecular Network of Wheat Gluten and on the Mechanical Properties of Compression-Molded Glassy Wheat Gluten Bioplastics**. Author: Koen J. A. Jansens*, Bert Lagrain, Kristof Brijs, Bart Goderis, Mario Smet, and Jan A. Delcour. *Journal of Agricultural and Food Chemistry* 2013, 61, 39, 9393-9400 (Article). Publication Date (Web): September 9, 2013. DOI: 10.1021/jf403156c. Includes Abstract, Full text, and PDF buttons.
- Article 3:** **Scaffolding along Nucleic Acid Duplexes Using 2'-Amino-Locked Nucleic Acids**. Author: I. Kira Astakhova* and Jesper Wengel. *Accounts of Chemical Research* 2014, 47, 6, 1768-1777 (Article). Publication Date (Web): April 21, 2014. DOI: 10.1021/ar500014g. Includes Abstract, Full text, and PDF buttons.

Chemical structures for Cystine and Lanthionine are shown below the articles.

- Rafinarea rezultatelor 1
Selectați revista, tipul manuscrisului, autorul sau data publicării pentru a restrânge căutarea. Rezultatele vor fi afișate pe aceeași pagină.
- Organizarea rezultatelor 2
Sortați rezultatele după relevanță sau data publicării,
- Vizualizarea imaginilor
Puteți vizualiza toate imaginile din articol



- Salvează căutarea 3. Asigurați-vă că sunteți în contul personal. Denumiți căutarea salvată. Opțional: activați o alertă de căutare din meniul cascadă. Apăsați butonul „Save”. Astfel, căutarea salvată poate fi accesată din „Your Profile”.
- Abonați-vă la știri RSS 4. După ce ați efectuat o căutare, puteți primi informații despre noile articole, ce corespund criteriilor introduse, prin abonarea RSS. Copiați adresa RSS în cititorul favorit de informații. Puteți obține o adresă RSS și pentru căutărilor deja efectuate, prin apăsarea butonului reprezentativ RSS de lângă fiecare căutare salvată.

ACS Publications
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Impact of Acid and Alkaline Pretreatments on the Molecular Network of Wheat Gluten and on the Mechanical Properties of Compression-Molded Glassy Wheat Gluten Bioplastics

Koen J. A. Jansens**[†], Bert Lagrain**[†], Kristof Brijs**[†], Bart Goderis**[†], Mario Smets[†], and Jan A. Delcour**[†]

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Journal of Agricultural and Food Chemistry

PDF (394 KB) **SUBJECTS:** Pretreatment, Peptides and proteins, Monomers, Ethanol, Nucleic acid structure

Abstract

Wheat gluten can be converted into rigid biobased materials by high-temperature compression molding at low moisture contents. During molding, a cross-linked protein network is formed. This study investigated the effect of mixing gluten with acid/alkali in 70% ethanol at ambient temperature for 16 h followed by ethanol removal, freeze-drying, and compression molding at 130 and 150 °C on network formation and on types of cross-links formed. Alkaline pretreatment (0–100 mmol/L sodium hydroxide or 25 mmol/L potassium hydroxide) strongly affected gluten cross-linking, whereas acid pretreatment (0–25 mmol/L sulfuric acid or 25 mmol/L hydrochloric acid) had limited effect on the gluten network. Molded alkaline-treated gluten showed enhanced cross-linking but also degradation when treated with high alkali concentrations, whereas acid treatment reduced gluten cross-linking. β-Elimination of cystine and lanthionine formation occurred more pronouncedly at higher alkali concentrations. In contrast, formation of disulfide and nondisulfide cross-links during molding was hindered in acid-pretreated gluten. Bioplastic strength was higher for alkali than for acid-pretreated samples, whereas the flexural modulus was only slightly affected by either alkaline or acid pretreatment. Apparently, the ratio of disulfide to nondisulfide cross-links did not affect the mechanical properties of rigid gluten materials.

KEYWORDS: acid, alkali, high-temperature compression molding, disulfide bond, lanthionine, mechanical properties

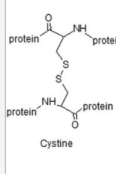
Introduction

Gluten proteins show interesting features for nonfood applications. Most researchers in this area focus on the production of gluten-based films by solution casting. In such processes, gluten is dispersed in a solvent, usually based on water and ethanol with acid or alkali. (1) Wheat gluten films can be produced from dispersions above or below the isoelectric point of gluten, but overall alkaline conditions result in stronger films. (2–4) This may be due to the increased gluten cross-linking under alkaline conditions, which not only involves disulfide bonds but also irreversible intermolecular cross-links, such as lysinoalanine (LAL). (3,4) However, faster techniques that require less or no solvent such as thermomolding or, more specifically, high-temperature compression or injection molding are more suited for industrial production and less demanding on the environment. (5)

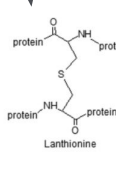
High-temperature compression molding of gluten at low moisture or plasticizer content results in a stiff, but brittle, material. (6) Plasticizers (e.g., glycerol) are often used to reduce the brittleness of gluten-based materials. (7) When high levels of plasticizer (typically exceeding 15%) are used, the gluten-based material tends to be rubbery rather than glassy at room temperature. The mechanical properties of rubbery materials are quite different from those of rigid materials. Whereas Young's modulus of gluten rubbers depends on gluten cross-linking, the introduction of cross-links does not heavily affect the modulus of glassy gluten materials. (8,9) The strength of gluten rubbers increases with the molding temperature, whereas their modulus increases with the molding temperature. (10) The introduction of cross-links does not affect the modulus of glassy gluten materials, but it does affect the modulus of rubbery materials. (11) Whereas Young's modulus of gluten rubbers depends on the ratio of disulfide to nondisulfide cross-links, the mechanical properties of rubbery materials depend on the ratio of disulfide to nondisulfide cross-links. (12) When high levels of plasticizer (typically exceeding 15%) are used, the gluten-based material tends to be rubbery rather than glassy at room temperature. The mechanical properties of rubbery materials are quite different from those of rigid materials. Whereas Young's modulus of gluten rubbers depends on gluten cross-linking, the introduction of cross-links does not heavily affect the modulus of glassy gluten materials. (8,9) The strength of gluten rubbers increases with the molding temperature, whereas their modulus increases with the molding temperature. (10) The introduction of cross-links does not affect the modulus of glassy gluten materials, but it does affect the modulus of rubbery materials. (11) Whereas Young's modulus of gluten rubbers depends on the ratio of disulfide to nondisulfide cross-links, the mechanical properties of rubbery materials depend on the ratio of disulfide to nondisulfide cross-links. (12)

Figures **References**

Abstract

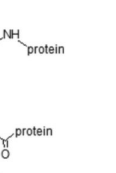


Cystine

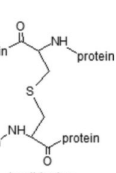


Lanthionine

Figure 1



Cysteine



Lanthionine

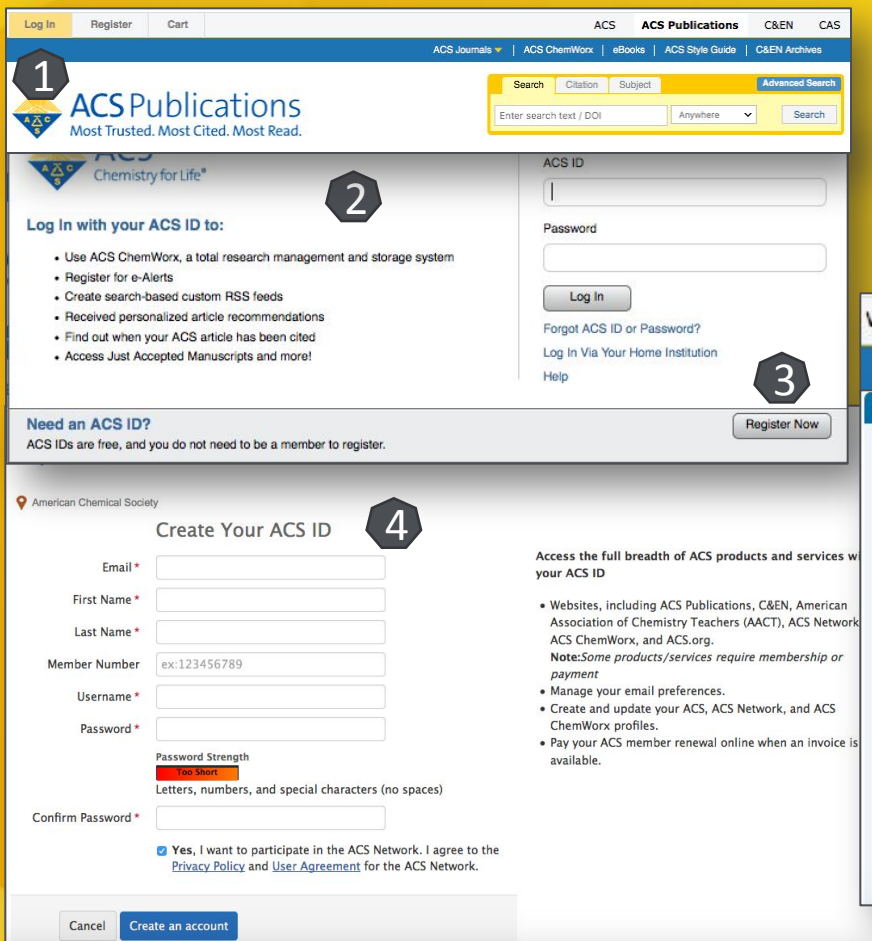
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- Accesați articolul full text în variantă pdf 1.
- Exportați referința în format BibTEX, Endnote, RefWorks 2.
- Vizualizați imaginile 3.

Creare cont

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Beneficia de posibilitatea salvării întregului parcurs de căutare sau activării unei alerte de înștiințare despre apariția unui nou articol, corespunzător ultimelor filtre de analiză selectate, trebuie să vă activați un cont personal, din tab-ul „Log In” 1. La apariția casetei 2, selectați „Register Now” 3. Completați spațiile libere 4. După ce apăsați „Create an account”, contul devine activ. Selectați din nou „Log In”, introduceți numele de utilizator și parola. După ce ați intrat în cont, veți observa că apare numele dumneavoastră 5.



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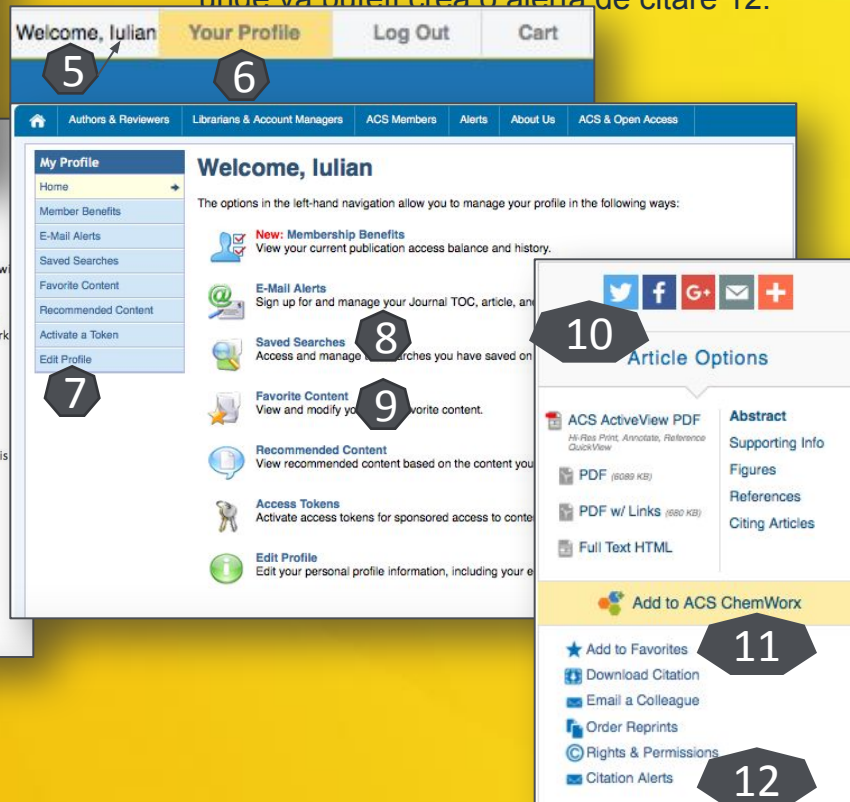
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□ Pagina dedicată unui articol conține în partea dreaptă caseta 10, de unde puteți adăuga articolul la „Favorites” 11 sau de unde vă puteți crea o alertă de citare 12.



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