

List of publications (2013 - 2019)

Articles in peer-reviewed journals

- Raak N**, Brehm L, Leidner R, Henle T, Rohm H, Jaros D (-) Hydrolysis by indigenous plasmin: Consequences for enzymatic cross-linking and acid-induced gel formation of non-micellar casein. *Food Biophysics*, in press. [\[Link\]](#)
- Raak N**, Abbate RA, Alkhalaf M, Lederer A, Rohm H, Jaros D (2020) Concentration-triggered liquid-to-solid transition of sodium caseinate suspensions as a function of temperature and enzymatic cross-linking. *Food Hydrocolloids*, 101, 105464. [\[Link\]](#)
- Abbate RA, **Raak N**, Boye S, Janke A, Rohm H, Jaros D, Lederer A (2019) Asymmetric flow field flow fractionation for the investigation of caseins cross-linked by microbial transglutaminase. *Food Hydrocolloids*, 92, 117 – 124. [\[Link\]](#)
- Raak N**, Brehm L, Abbate RA, Henle T, Lederer A, Rohm H, Jaros D (2019) Self-association of casein studied using enzymatic cross-linking at different temperatures. *Food Bioscience*, 28, 89 – 98. [\[Link\]](#)
- Raak N**, Schöne C, Rohm H, Jaros D (2019) Acid-induced gelation of cross-linked caseinate in different ionic milieus. *Food Hydrocolloids*, 86, 43 – 49. [\[Link\]](#)
- Kizzie-Hayford N, **Raak N**, Jaros D, Rohm H (2018) Addition of crude tiger nut protein extract affects stiffness of enzymatically cross-linked dairy proteins. *International Journal of Food Science and Technology*, 53, 1865 – 1870. [\[Link\]](#)
- Raak N**, Abbate RA, Lederer A, Rohm H, Jaros D (2018) Size separation techniques for the characterisation of cross-linked casein: A review of methods and their applications. *Separations*, 5, No 14. [\[Link\]](#)
- Raak N**, Rohm H, Jaros D (2017) Cross-linking with microbial transglutaminase: Isopeptide bonds and polymer size as drivers for acid casein gel stiffness. *International Dairy Journal*, 66, 49 – 55. [\[Link\]](#)
- Raak N**, Rohm H, Jaros D (2017) Enzymatic cross-linking of casein facilitates gel structure weakening induced by overacidification. *Food Biophysics*, 12, 261 – 268. [\[Link\]](#)
- Raak N**, Symmank C, Zahn S, Aschemann-Witzel J, Rohm H (2017) Processing- and product-related causes for food waste and implications for the food supply chain. *Waste Management*, 61, 461 – 472. [\[Link\]](#)
- Raak N**, Gehrisch S, Rohm H, Jaros D (2015) Rotational thromboelastometry for characterising acid-induced gelation of cross-linked casein. *Food Biophysics*, 10, 25 – 29. [\[Link\]](#)
- Jaros D, Schwarzenbolz U, **Raak N**, Löbner J, Henle T, Rohm H (2014) Cross-linking with microbial transglutaminase: Relationship between polymerisation degree and stiffness of acid casein gels. *International Dairy Journal*, 38, 174 – 178. [\[Link\]](#)
- Schuldt S, **Raak N**, Jaros D, Rohm H (2014) Acid-induced formation of soy protein gels in the presence of NaCl. *LWT – Food Science and Technology*, 57, 634 – 639. [\[Link\]](#)

Book chapters

- Raak N**, Dürschmid K, Rohm H (-) Texture of the German Würstchen. In: K Nishinari (Ed.) *Textural Characteristics of World Foods*. Hoboken: John Wiley & Sons, in press.
- Raak N**, Rohm H, Jaros D (-) Enzymatic protein cross-linking in dairy science and technology. In: AL Kelly, LB Larsen (Eds.) *Agents of Change: Enzymes in Milk and Dairy Products*. Vienna: Springer Nature, in press.

Manuscripts in conference proceedings

Raak N, Leidner R, Rohm H, Jaros D (2016) Potential of thromboelastometry and multispeckle diffusing wave spectroscopy for monitoring acid-induced casein gelation. *Annual Transactions of the Nordic Rheology Society*, Vol. 24, 81 – 85, ISBN 978-91-637-9105-5. [\[Link\]](#)

Raak N, Darnay L, Brandt J, Boye S, Lederer A, Rohm H, Jaros D (2014) Cross-linking affects rearrangements in acid casein gels: Evaluation of acidification conditions. *Annual Transactions of the Nordic Rheology Society*, Vol. 22, 109 – 114, ISBN 978-91-637-3012-2. [\[Link\]](#)

Oral presentations and posters (Presenting author is underlined)

Raak N (2019) Cross-linking with microbial transglutaminase: Drivers of structure-function-interrelations in acid caseinate gels. *13th EFCE European PhD Workshop on Food Engineering and Technology*, Vienna, Austria (Talk).

Raak N, Abbate RA, Boye S, Lederer A, Rohm H, Jaros D (2019) Acid gelation of enzymatically cross-linked caseinates: Relationship between molecular characteristics, rheology and gel microstructure. *8th International Symposium on Food Rheology and Structure*, Zurich, Switzerland (Talk).

Raak N, Abbate RA, Boye S, Lederer A, Rohm H, Jaros D (2019) Acid gelation of enzymatically cross-linked caseins: From molecular level to network formation. *20th Gums & Stabilisers for the Food Industry Conference*, San Sebastian, Spain (Poster).

Abbate RA, Alkhalaf M, **Raak N**, Boye S, Rohm H, Jaros D, Lederer A (2018) Cross-linking of caseins with microbial transglutaminase: A comprehensive analysis using asymmetrical flow field flow fractionation. *4th International Conference on Food Chemistry and Technology*, Berlin, Germany (Talk).

Abbate RA, **Raak N**, Boye S, Rohm H, Jaros D, Lederer A (2018) Application of asymmetric flow field flow fractionation for the characterization of caseins cross-linked by microbial transglutaminase. *19th International Symposium on Field- and Flow-Based Separations*, Columbia, SC, USA (Talk).

Abbate RA, **Raak N**, Heimann M, Alkhalaf M, Boye S, Rohm H, Jaros D, Lederer A (2018) Effect of the ionic milieu on the size distribution and conformation of cross-linked caseins. *19th International Symposium on Field- and Flow-Based Separations*, Columbia, SC, USA (Poster).

Raak N, Brehm L, Leidner R, Henle T, Rohm H, Jaros D (2018) Hydrolyse von Säurecasein durch indigenes Plasmin: Auswirkungen auf die enzymatische Quervernetzung und die säure-induzierte Gelbildung. *GDL Kongress Lebensmitteltechnologie 2018*, Bremerhaven, Germany (Poster).

Raak N, Rohm H, Jaros D (2018) Effects of enzymatic cross-linking on the rheological properties of sodium caseinate suspensions. *7th Pacific Rim Conference on Rheology*, Jeju Island, Republic of Korea (Talk).

Raak N, Rohm H, Jaros D (2018) Time-dependent mechanical spectra of acid gels from cross-linked caseinates. *17th Food Colloids Conference*, Leeds, UK (Poster).

Abbate RA, **Raak N**, Boye S, Rohm H, Jaros D, Lederer A (2017) Polymerisation of casein on the molecular level – Comprehensive investigations of the enzymatic cross-linking. *8th International Symposium on the Separation and Characterization of Natural and Synthetic Macromolecules*, Amsterdam, The Netherlands (Poster).

Abbate RA, **Raak N**, Brehm L, Boye S, Rohm H, Jaros D, Lederer A (2017) Characterization of the enzymatic cross-linking of caseins by mTGase. *30th International Symposium on Polymer Analysis and Characterization*, Linz, Austria (Poster).

- Abbate RA, **Raak N**, Jaros D, Rohm H, Lederer A (2017) Understanding casein assembly by field flow fractionation and related methods. *30th International Symposium on Polymer Analysis and Characterization*, Linz, Austria (Talk).
- Raak N**, Abbate RA, Brehm L, Lederer A, Rohm H, Jaros D (2017) Enzymatic casein polymerisation studied by SEC-MALS. *19th Gums & Stabilisers for the Food Industry Conference*, Berlin, Germany (Poster).
- Raak N**, Geißler P, Penke Y, Rohm H, Jaros D (2017) Enzymatically cross-linked sodium caseinate for enrichment of acid milk gels. *10th NIZO Dairy Conference*, Papendal, The Netherlands (Talk).
- Raak N**, Rohm H, Jaros D (2017) Untersuchung der Gelbildung von enzymatisch polymerisiertem Casein durch zeitbasierte Multiwave-Tests. *8. TA-Anwendertreffen Rheologie*, Erlangen, Germany (Talk).
- Raak N**, Schöne C, Rohm H, Jaros D (2017) Effect of ionic strength on enzymatic polymerisation and acid-induced gelation of caseinate. *19th Gums & Stabilisers for the Food Industry Conference*, Berlin, Germany (Talk).
- Raak N**, Boye S, Lederer A, Rohm H, Jaros D (2016) Compositional effects on the association of casein. *18th International Symposium on Field- and Flow-Based Separations*, Dresden, Germany (Poster).
- Raak N**, Leidner R, Rohm H, Jaros D (2016) Potential of thromboelastometry and multispeckle diffusing wave spectroscopy for monitoring acid-induced casein gelation. *25th Nordic Rheology Conference*, Helsinki, Finland (Talk).
- Raak N**, Symmank C, Zahn S, Aschemann-Witzel J, Rohm H (2016) Food losses in the German food industry: Insights from expert interviews. *4th International ISEKI_Food Conference*, Vienna, Austria (Poster).
- Raak N**, Rohm H, Jaros D (2015) The role of β -casein for the structuring of acid-induced casein gels: Conclusions drawn from unusual gelation experiments. *9th NIZO Dairy Conference*, Papendal, The Netherlands (Talk).
- Boye S, Geisler M, **Raak N**, Jaros D, Rohm H, Lederer A (2014) Investigation of enzymatically cross-linked casein by AF4-LS. *17th International Symposium on Field- and Flow-Based Separations*, Salt Lake City, UT, USA (Poster).
- Raak N**, Darnay L, Brandt J, Boye S, Lederer A, Rohm H, Jaros D (2014) Cross-linking affects rearrangements in acid casein gels: Evaluation of acidification conditions. *23rd Nordic Rheology Conference*, Reykjavík, Iceland (Talk).
- Jaros D, Schwarzenbolz U, **Raak N**, Schmidt C, Löbner J, Rohm H (2013) Cross-linking with microbial transglutaminase: Relationship between oligomerisation degree and stiffness of acid casein gels. *8th NIZO Dairy Conference*, Papendal, The Netherlands (Talk).