

Jonathan M. Curtis

Employment:

Professor: Lipid Chemistry Group (6/2007 - present)

Department of Agricultural, Food and Nutritional Science

UNIVERSITY OF ALBERTA, Edmonton, AB, Canada

Courses: taught in Food Chemistry and Analytical Chemistry.

Research: focused on lipid science - the identification and measurement of lipids of importance in food, agriculture and medical science; converting locally sourced plant oils and animal fat into more valuable biobased chemicals, materials and food ingredients.

Director of Research: Analytical and Functional Food Technologies (4/1999 - 5/2007)

OCEAN NUTRITION CANADA Ltd., Dartmouth, Nova Scotia, Canada.

Industrial R&D position: Directed analytical chemistry and food science groups involved in oil processing, quality, developing microencapsulated oil as a food ingredient and food grade oils with desirable sensory qualities. This involved many interactions with customers, management and production.

Research Officer (1992 - 1999)

Institute for Marine Biosciences, NATIONAL RESEARCH COUNCIL, Halifax, N.S., Canada.

Government Research position: analytical chemistry, mass spectrometry, marine lipids and natural products, NRC certified reference material program, environmental analysis.

Senior Research Fellow (1989 - 1992)

Warwick Institute for Mass Spectrometry and Department of Chemistry, UNIVERSITY OF WARWICK, Coventry, U.K.

Research areas: analytical chemistry, mass spectrometry; joint program with an instrument company

Development Engineer (1988 - 1989)

VG ANALYTICAL (now Waters/MICROMASS), Manchester, U.K.

R&D in an analytical instrument company

Postdoctoral Research Associate (1987-88)

School of Chemical Sciences, UNIVERSITY OF ILLINOIS, Urbana, Illinois, U.S.A.

Education:

Ph.D. Analytical Chemistry (1987)

Royal Society Research Unit, UNIVERSITY COLLEGE OF SWANSEA, Wales, U.K.

Thesis title: "Novel Methods of Structure Determination by Mass Spectrometry"

M.Sc. Analytical Chemistry (1983)

Department of Chemistry, UNIVERSITY OF GUELPH, Ontario, Canada.

B.Sc. Chemistry (1981)

Department of Chemistry, UNIVERSITY OF SOUTHAMPTON, U.K.

Publication Record:

184 peer-reviewed journal articles published.

7 book chapters.

6 granted patents.

Jonathan M. Curtis - List of Publications

A. Journal Articles

2022-

179. LC-MS/MS quantitation of immune-reactive α - amylase/trypsin inhibitor CM3 and glutathione during wheat sourdough breadmaking
Savanna Won, Jonathan M. Curtis and Michael G. Ganzle
Journal of Applied Microbiology. 133,120–129 (2022)
<https://doi.org/10.1111/jam.15346>

180. Elucidating the role of the gut microbiota in the physiological effects of dietary fiber
Edward C. Deehan; Zhengxiao Zhang; Alessandra Riva; Anissa M. Armet; Maria Elisa Perez-Muñoz; Nguyen K. Nguyen; Jacqueline A. Krysa; Benjamin Seethaler; Yuan-Yuan Zhao; Janis Cole; Fuyong Li; Bela Hausmann; Andreas Spittler; Julie-Anne Nazare; Nathalie M. Delzenne; Jonathan M. Curtis; Wendy V. Wismer; Spencer D. Proctor; Jeffrey A. Bakal; Stephan C. Bischoff; Dan Knights; Catherine J. Field; David Berry; Carla M. Prado; Jens Walter
Microbiome, (2022) 10:77, <https://doi.org/10.1186/s40168-022-01248-5>

181. The Degradation and Toxicity of Commercially Traded Vegetable Oils Following Spills in Aquatic Environment
Arularasu Muthaliar Tamothran , Kesaven Bhupalan* , Sabiqah Tuan Anuar , Jonathan M. Curtis
Environmental Research 214, 113985 (2022)

182. Antifungal cultures and metabolites of lactic acid bacteria for use in dairy fermentations
Nuanyi Liang , Zheng Zhao , Jonathan M. Curtis, and Michael G. Gänzle*
International Journal of Food Microbiology 383 (2022) 109938

183. Biobased thermosets from epoxidized linseed oil and its methyl esters
Tolibjon S. Omonov, Vinay R Patel, Jonathan M. Curtis
ACS Applied Polymer Materials, 4, 9, 6531-6542 (2022)
DOI: 10.1021/acsapm.2c00926

184. A study of the sensory attributes of flours and crackers made from sprouted and unsprouted faba beans,
Rami Akkad, Amanda Buchko, Philip O. Soladoye, Jay Han, Jonathan M. Curtis*,
LWT Food Science and Technology, Volume 179, 114650 (2023)
<https://doi.org/10.1016/j.lwt.2023.114650>.

2021

172. A biobased reactive accelerant and diluent for solvent-free drying oils
Magdalena Hubmann and Jonathan M. Curtis

Progress in Organic Coatings 157, 106024 (2021)
<https://doi.org/10.1016/j.porgcoat.2020.106024>

173. Buttermilk: an important source of lipid soluble forms of choline that influences the immune system development in Sprague-Dawley rat offspring."

Jessy Azarcoya-Barrera, MSc; Catherine J. Field, PhD, RD; Susan Goruk; Alexander Makarowski; Jonathan M. Curtis, PhD; Yves Pouliot, PhD; René L. Jacobs, PhD; Caroline Richard, Ph.D

European Journal of Nutrition 60, 2807-2818 (2021)
<https://doi.org/10.1007/s00394-020-02462-3>

174. Dietary phosphatidylcholine supplementation reduces atherosclerosis in Ldlr^{-/-} male mice
 Paulina Aldana-Hernández, Jessy Azarcoya-Barrera, Jelske N. van der Veen², Kelly-Ann Leonard¹ Yuan-Yuan Zhao, Randall Nelson, Susan Goruk, Catherine J. Field, Jonathan M Curtis, Caroline Richard, René L Jacobs*

The Journal of Nutritional Biochemistry Volume 92, 108617, June 2021,
 DOI: 10.1016/j.jnutbio.2021.108617

175 Advances in the Separation of Gangliosides by High-Speed Counter-Current Chromatography (HSCCC)

Nuanyi Liang, Lucie Necasova, Yuanyuan Zhao, Jonathan M. Curtis

Journal of Chromatography B Volume 1174, 1 June 2021, 122701

<https://doi.org/10.1016/j.jchromb.2021.122701>

176. The effect of short-term storage temperature on the key headspace volatile compounds observed in Canadian faba bean flour

Rami Akkad, Ereddad Kharraz, Jay Han, James D. House, and Jonathan M. Curtis

Food Science and Technology International 28(2), 135-143 (2021)

First Published March 2, 2021 Issue published: March 1, 2022

<https://doi.org/10.1177/1082013221998843>

177. "*Sprouting Improves the Flavour Quality of Low- and High-tannin Faba Bean Flours*" by Rami Akkad, Amanda Buchko, Stuart P. Johnston, Jay Han, James D. House, and Jonathan M. Curtis

Food Chemistry, 130355, 364 (2021)

<https://doi.org/10.1016/j.foodchem.2021.130355>

178. Epoxidized linseed lipids as a durable and fast-curing alternative to drying oils

Magdalena Hubmann*, Konstantin von Gunten, Daniel S. Alessi, Jonathan M. Curtis,

Progress in Organic Coatings 159, 106406 (2021)

<https://doi.org/10.1016/j.porgcoat.2021.106406>

2020

167. Dietary choline or TMAO supplementation did not influence atherosclerosis development in Ldlr^{-/-} and Apoe^{-/-} male mice

Paulina Aldana-Hernández, Kelly-Ann Leonard, Yuan-Yuan Zhao, Jonathan M Curtis, Catherine J. Field, René L Jacobs

The Journal of Nutrition, Volume 150, Issue 2, February 2020, Pages 249–255, <https://doi.org/10.1093/jn/nxz214>

168. Inhibition of Autotaxin with GLPG1690 Increases the Efficacy of Radiotherapy and Chemotherapy in a Mouse Model of Breast Cancer

Xiaoyun Tang, Melinda Wuest, Matthew

G.K. Benesch, Jennifer Dufour, YuanYuan Zhao, Jonathan

M. Curtis, Alain Monjardet, Bertrand Heckmann, David Murray, Frank Wuest and David N. Brindley

Mol Cancer Therapeutics 19 (1) 63-74; (2020)

DOI:10.1158/1535-7163.MCT-19-0386

169. Feeding Buttermilk-Derived Choline Forms During Gestation and Lactation Modulates Ex Vivo T-Cell Response in Rat Dams

Jessy Azarcoya-Barrera, Susan Goruk, Erin D Lewis, Yves Pouliot, Jonathan M Curtis, Reid Steele, Emily Wadge, Catherine J Field, René L Jacobs, Caroline Richard

The Journal of Nutrition, Volume 150, Issue 7, Pages 1958–1965, (2020)

<https://doi.org/10.1093/jn/nxaa089>

170. Structure-function relationships of antifungal monohydroxy unsaturated fatty acids (HUFA) of plant and bacterial origin

Nuanyi Liang, Andrea Dacko, Alexander K.Tan, Sheng Xiang, Jonathan M. Curtis, Michael G. Gänzle

Food Research International Volume 134, 109237 (2020)

<https://doi.org/10.1016/j.foodres.2020.109237>

171. Identification and quantitation of hydroxy fatty acids in fermented sausage samples

Nuanyi Liang, Kaixing Tang, Jonathan M. Curtis, and Michael G. Gänzle

Journal of Agricultural and Food Chemistry 68, 32, 8648-8657 (2020)

DOI: 10.1021/acs.jafc.0c02688

2019

156. Kinetic stabilization of cellulose nanocrystals in a photocurable prepolymer for application as an adhesion promoter in UV-curable coatings

Magdalena Hubmann, Xiaohua Kong, Jonathan Curtis

Progress in Organic Coatings, **129**, 101-115 (2019)

<https://doi.org/10.1016/j.porgcoat.2018.12.019>

157. Exploiting synergies of sourdough and antifungal organic acids to delay fungal spoilage of bread

Mattia Quattrini, Nuanyi Liang, Maria Grazia Fortina, Sheng Xiang , Jonathan M. Curtis, Michael Gänzle

International Journal of Food Microbiology, **302**, 8-14 (2019)

<https://doi.org/10.1016/j.ijfoodmicro.2018.09.007>

158. A Role for Phosphatidylcholine and Phosphatidylethanolamine in Hepatic Insulin Signaling

Jelske N. van der Veen, Susanne Lingrell, Nicholas McCloskey , Danny

Galleguillos, Yuan Y. Zhao, Jonathan M. Curtis , Simonetta Sipione , Morgan D. Fullerton , Dennis E. Vance , René L. Jacobs

FASEB Journal : **33(4)**, 5045-5057 (2019)

<https://doi.org/10.1096/fj.201802117R>

159. Late-onset megaconial myopathy in mice lacking group I Paks

Giselle A. Joseph; Aviva J. Goel; Mingi Hing; Marysia-Kolbe Rieder; Noam D. Beckmann;

Madhavika N. Serasinghe; Jerry E. Chipuk; Parvathi M. Devarakonda; David J. Goldhamer;

Paulina Aldana-Hernandez; Jonathan Curtis; Rene Jacobs; Robert S. Krauss

Skeletal Muscle, 9: 5 (2019)

<https://doi.org/10.1186/s13395-019-0191-4>

160. Experimental testing of the tensile elastic properties of cellulose braided composites

Brianna Bruni-Bossio, Cagri Ayranci, Jason P. Carey Tolibjon Omonov, Jonathan Curtis

Composites Part B: Engineering **166**, 542-548 (2019)

<https://doi.org/10.1016/j.compositesb.2019.02.052>

161. Characterisation of the volatile flavour compounds in low and high tannin faba beans (*Vicia faba* var. minor) grown in Alberta, Canada

Rami Akkad, Ereddad Kharraz, Jay Han, James D. House, and Jonathan M. Curtis

Food Research International **120**, 285-294 (2019)

<https://doi.org/10.1016/j.foodres.2019.02.044>

162. Impact of clinical use of parenteral lipid emulsions on bile acid metabolism and composition in neonatal piglets

Celeste M. Lavalley; David W. Lim; Pamela R. Wizzard; Vera C. Mazurak; Si Mi; Jonathan M. Curtis; Benjamin P. Willing; Jason Y. Yap; Paul W. Wales; and Justine M. Turner

Journal of Parenteral and Enteral Nutrition **43(5)**, 668–676 (2019)

DOI:10.1002/jpen.1437 (published on-line ahead of print 2018)

163. Repeated Fractions of X-Radiation to the Breast Fat Pads of Mice Augment Activation of the Autotaxin-Lysophosphatidate-Inflammatory Cycle

Guanmin Meng, Melinda Wuest, Xiaoyun Tang, Jennifer Dufour, YuanYuan Zhao, Jonathan M. Curtis, David Murray, Todd P.W. McMullen, Frank Wuest and David N. Brindley

Cancers **11**, 1816 (2019)

doi:10.3390/cancers11111816

164. The Development of Epoxidized Hemp Oil Prepolymers for the Preparation of Thermoset Networks

Tolibjon S. Omonov, Vinay Patel, , Jonathan M. Curtis

J. Am Oil Chem. Soc. **96**, 1389-1403 (2019)

<https://doi.org/10.1002/aocs.12290>

165. Dexamethasone decreases the autotaxin-lysophosphatidate-inflammatory axis in adipose tissue: Implications for the Metabolic Syndrome and breast cancer

Guanmin Meng, Xiaoyun Tang, Zelei Yang, YuanYuan Zhao,

Jonathan M. Curtis, Todd P.W. McMullen and David N. Brindley

FASEB Journal **33**(2) 07 Sep 2018

<https://doi.org/10.1096/fj.201801226R>

Published online 30th Jan 2019

166. Mixed lipid, fish oil and soybean oil parenteral lipids impact cholestasis, hepatic phytosterol and lipid composition"

Daniela Migliarese Isaac *, Abeer S. Alzaben, Vera C. Mazurak, Jason Yap, Pamela R. Wizzard; Patrick N. Nation; Yuan-Yuan Zhao, Jonathan M. Curtis, Consolato Sergi, Paul W. Wales, Diana R. Mager and Justine M. Turner

Journal of Pediatric Gastroenterology and Nutrition 68(6):861-867, (2019)

doi: 10.1097/MPG.0000000000002313

2018

152. The dietary form of choline affects maternal immune function during lactation in rodents

N. S. Dellschaft, C. Richard, E. D. Lewis, S. Goruk, R. L. Jacobs, J. M. Curtis, C. J. Field

Eur J Nutr. **57**: 2189-2199 (2018)

<https://doi.org/10.1007/s00394-017-1493-0>

153. HDL protects against doxorubicin induced cardiotoxicity in a scavenger receptor class B type 1, PI3K, and AKT dependent manner.

Kristina K. Durham, Kevin M. Chathely, Kei Cheng Mak, Abdul Momen, Cyrus T. Thomas , Yuan-Yuan Zhao, Melissa E. MacDonald, Jonathan M. Curtis, Mansoor Husain, Bernardo L. Trigatti.

American Journal of Physiology- Heart and Circulatory Physiology

314(1), H31-H44 (2018)

DOI: 10.1152/ajpheart.00521.2016

154. Hepatic expression of Pemt, but not dietary choline supplementation, reverses the protection against atherosclerosis in Pemt^{-/-} /Ldlr^{-/-} mice

Yumna Zia, Ala Al Rajabi, Si Mi, Tingting Ju, Kelly-Ann Leonard, Randal Nelson,

AducioThiesen, Benjamin P. Willing, Catherine J. Field, Jonathan M. Curtis, Jelske N. van der Veen, René L. Jacobs*

The Journal of Nutrition, 148(10), 1513–1520 (2018)

<https://doi.org/10.1093/jn/nxy165>

155. The Preparation and Characterization of Polyurethane Reinforced by Cellulose Nanocrystals
Xiaohua Kong, John Wolodko, Liyan Zhao, and Jonathan M. Curtis*
Progress in Organic Coatings 125, 207-214 (2018)
<https://doi.org/10.1016/j.porgcoat.2018.08.034>

2017

141. Supplemental parenteral vitamin E into conventional soybean lipid emulsion does not improve parenteral nutrition-associated liver disease in full-term neonatal piglets
Muto, Mitsuru; Lim, David; Soukvilay, Amanda; Field, Catherine;
Wizzard, Pamela; Goruk, Susan; Ball, Ronald; Pencharz, Paul; Mi, Si; Curtis, Jonathan; Wales, Paul;
Turner, Justine;
Journal of Parenteral and Enteral Nutrition
41(4), 575-582 (2017)
doi: 10.1177/0148607115612030

142. The development of a choline rich cereal based functional food: effect of processing and storage
J. Asomaning, Y-Y. Zhao, E.D. Lewis, J. Wu, R.L. Jacobs, C.J Field and J.M. Curtis
LWT – Food Science and Technology, 75, 447-452 (2017)
Final version published online: 31-OCT-2016
DOI: 10.1016/j.lwt.2016.09.022

143. Enzymatic modification of egg lecithin for improved properties
J. Asomaning and J.M. Curtis
Food Chemistry, 220, 385-392 (2017)
<http://dx.doi.org/10.1016/j.foodchem.2016.09.155>

144. Simultaneous determination of trimethylamine and trimethylamine N-oxide in mouse plasma samples by hydrophilic interaction liquid chromatography coupled to tandem mass spectrometry
Si Mi, Yuanyuan Zhao, René L. Jacobs, Jonathan M. Curtis
Journal of Separation Science 40(3), 688–696 (2017)
DOI: 10.1002/jssc.201600926

145. The use of ATR-FTIR Spectroscopy to Measure Changes in the Oxirane Content and Iodine Value of Vegetable Oils during Epoxidation
M. H. Tavassoli-Kafrani, F.R.van de Voort, J. M. Curtis*
European Journal of Lipid Science and Technology 119(7), 1600354 (2017)
<http://doi.wiley.com/10.1002/ejlt.201600354>

146. Doxycycline attenuates breast cancer related inflammation by decreasing plasma lysophosphatidate concentrations and inhibiting NF- κ B activation
Xiaoyun Tang, Xianyan Wang, Yuan Y. Zhao, Jonathan M. Curtis and David N. Brindley
Molecular Cancer 16:36 (2017)
DOI 10.1186/s12943-017-0607-x
147. Feeding a mixture of choline forms to lactating dam improves the development of the immune system in offspring
Caroline Richard, Erin D. Lewis, Susan Goruk, Emily Wadge, Jonathan M. Curtis, René L. Jacobs, Catherine J. Field
Nutrients, **9**, 567 (2017)
doi:10.3390/nu9060567
148. Camelina (*Camelina Sativa*) oil polyols as an alternative to Castor oil
Tolibjon S. Omonov, Ereddad Kharraz and Jonathan M. Curtis*
Industrial Crops and Products, **107**, 378-385 (2017)
<http://dx.doi.org/10.1016/j.indcrop.2017.05.041>
149. Feeding a mixture of choline forms representative of human dietary intake during lactation in rats improves offspring growth and maternal lymphocyte response to ex vivo immune challenges
Erin Lewis, Caroline Richard, Susan Goruk, Emily Wadge, Jonathan Curtis, Rene Jacobs, Catherine Field
Nutrients **9**, 713 (2017)
doi:10.3390/nu9070713
150. Encapsulation of Lutein in Liposomes Using Supercritical Carbon Dioxide
Lisha Zhao, Feral Temelli, Jonathan M. Curtis, Lingyun Chen
Food Research International 100, 168-179 (2017)
<http://dx.doi.org/10.1016/j.foodres.2017.06.055>
- 151 Nuanyi Liang, Pengfei Cai, Datong Wu, Yuanjiang Pan, Jonathan M. Curtis and Michael G. Gänzle* High-Speed Counter-Current Chromatography (HSCCC) Purification of Antifungal Fatty Acids from Plant Seed Oil and *Lactobacillus* Fermentation
Journal of Agriculture and Food Chemistry **65**, 11229-11236 (2017)

2016

123. Glucagon-like peptide-2 alters bile acid metabolism in parenteral nutrition associated liver disease David W. Lim, Paul W. Wales, Si Mi, Jason Y. K. Yap, Jonathan M. Curtis, Diana R. Mager, Vera C. Mazurak, Pamela R. Wizzard, David L. Sigalet, Justine M. Turner
Journal of Parenteral and Enteral Nutrition
40(1), 22-35 (2016)
doi: 10.1177/0148607115595596

124. Measurement of the total choline content in 48 commercial dairy products or dairy alternatives
Caroline Richard , Erin D. Lewis , Yuan-Yuan Zhao , Justice Asomaning , René L. Jacobs , Catherine J. Field , Jonathan M. Curtis *
Journal of Food Composition and Analysis
45, 1-8 (2016)
doi:10.1016/j.jfca.2015.09.009
125. Evaluation of Fumagilin-B® and other potential alternative chemotherapies against *Nosema ceranae*-infected honey bees (*Apis mellifera*) in cage trial assays
Johan P. van den Heever, Thomas S. Thompson, Simon J.G. Otto, Jonathan M. Curtis, Abdullah Ibrahim, Stephen F. Pernal
Apidologie, **47**, 617–630 (2016)
DOI: 10.1007/s13592-015-0409-3
126. The effect of dicyclohexylamine and fumagillin on *Nosema ceranae*-infected honey bee (*Apis mellifera*) mortality in cage trial assays
Johan P. van den Heever, Thomas S. Thompson, Simon J.G. Otto, Jonathan M. Curtis, Abdullah Ibrahim, Stephen F. Pernal
Apidologie **47**, 663–670 (2016)
DOI: 10.1007/s13592-015-0411-9
127. Lysotropic Agents Selectively Target Chronic Lymphocytic Leukemia Cells Due to Altered Sphingolipid Metabolism.
Rebecca F Dielschneider, Hannah Eisenstat, Si Mi, Jonathan M Curtis, Wenyan Xiao, James B Johnston, Spencer B Gibson
Leukemia
30(6), 1290-1300 (2016)
doi: 10.1038/leu.2016.4.
128. Quantification of Nonanal and Oleic acid formed during the Ozonolysis of Vegetable Oil Free Fatty Acids or Fatty Acid Methyl Esters
M. H. Tavassoli-Kafrani, P. Foley, E. Kharraz, J. M. Curtis
Journal of the American Oil Chemists' Society
93(3), 303-310 (2016)
doi: 10.1007/s11746-015-2780-7
129. The form of choline in the maternal diet affects immune development in the suckled offspring
Erin D. Lewis, Caroline Richard, Susan Goruk, Neele S. Dellschaft, Jonathan M. Curtis, René L. Jacobs, Catherine J. Field
Journal of Nutrition
146, 823-830 (2016)
doi:10.3945/jn.115.225888

130. Oxidative stress contributes to the tamoxifen-induced killing of breast cancer cells: implications for tamoxifen therapy and resistance
Raie Taye Bekele, Ganesh Venkatraman, Rong-Zong Liu, Xiaoyun Tang, Si Mi, Matthew Benesch John R Mackey and Roseline Godbout, Jonathan M. Curtis, Todd McMullen, David N.Brindley*
Nature Scientific Reports, 6:21164 (2016)
DOI: 10.1038/srep21164

131. Determination of Bile Acids in Piglet Bile by Solid Phase Extraction and Liquid Chromatography-Electrospray Tandem Mass Spectrometry
Si Mi, David W. Lim, Justine M. Turner, Paul W. Wales, Jonathan M. Curtis
Lipids **51(3)**, 359-372 (2016)
DOI 10.1007/s11745-016-4125-1

132. Tetracyclines increase the expression of lipid phosphate phosphatases on plasma membranes and the turnover of plasma lysophosphatidate
Xiaoyun Tang, Yuan Y. Zhao , Jay Dewald, Jonathan M. Curtis and David N. Brindley
Journal of Lipid Research **57(4)**, 597-606 (2016)
doi:10.1194/jlr.M065086

133. Vaccenic acid suppresses intestinal inflammation by increasing anandamide and related N-acylethanolamines in the JCR:LA-cp rat
Jacome-Sosa MM, Vacca C, Diane A, Reaney MJ, Shen J, Curtis JM, Vine D, Field C, Banni S and Proctor SD.
Journal of Lipid Research **57(4)**, 638-649 (2016)
doi:10.1194/jlr.M066308

134. Stoichiometric determination of moisture in edible oils by Mid-FTIR spectroscopy
F. R. van de Voort, M. H. Tavassoli-Kafrani and J. M. Curtis
Analytica Chimica Acta, **918**, 1-7 (2016)
<http://dx.doi.org/10.1016/j.aca.2016.03.016>

135. Polyurethane nanocomposites incorporating biobased polyols and reinforced with a low fraction of cellulose nanocrystals
Xiaohua Kong, Liyan Zhao, Jonathan M. Curtis,
Carbohydrate Polymers **152**, 487-495 (2016)
DOI: 10.1016/j.carbpol.2016.07.032

136. An LC/MS/MS method for the simultaneous determination of individual sphingolipid species in B cells
Si Mi, Yuan-Yuan Zhao, Rebecca F Dielschneider, Spencer B Gibson, Jonathan M. Curtis
Journal of Chromatography B, **1031**, 50–60 (2016)
Doi: 10.1016/j.jchromb.2016.07.028

137. Feeding a diet devoid of choline during suckling restricts growth and impairs T cell

expansion and function in offspring

Erin D. Lewis, Susan Goruk, Caroline Richard, Neele S. Dellschaft, Jonathan M. Curtis, René L. Jacobs, Catherine J. Field

British Journal of Nutrition **116(6)**, 1001–1012 (2016)

doi: 10.1017/S0007114516002919

138. Fatty Acid Composition of Novel Host Jack Pine Do Not Prevent Host Acceptance and Colonization by the Invasive Mountain Pine Beetle and Its Symbiotic Fungus

Guncha Ishangulyyeva, Ahmed Najar, Jonathan M. Curtis, Nadir Erbilgin,*

PLoS ONE 11(9): e0162046 (2016)

doi: 10.1371/journal.pone.0162046

139. The Epoxidation of Canola Oil and its Derivatives

T.Omonov*, E Kharraz and J.M.Curtis

RSC Advances, 6, 92874 – 92886 (2016)

DOI: 10.1039/c6ra17732h

140. Characterization of linoleate 10-hydratase of *Lactobacillus plantarum* and novel antifungal metabolites

Yuan Yao Chen, Nuan Yi Liang, Jonathan M. Curtis, Michael Gänzle

Frontiers in Microbiology **7**, 1561 (2016)

doi: 10.3389/fmicb.2016.01561

2015

111. A single-sample method to determine the hydroxyl values of polyols using mid-FTIR spectroscopy

M. H. Tavassoli-Kafrani, J. M. Curtis and F.R. van de Voort*

Eur. J. Lipid Sci. Technol. **117(1)**, 65-72 (2015)

DOI: 10.1002/ejlt.201400256

112. Determination of dicyclohexylamine and fumagillin in honey by LC-MS/MS

Johan P. van den Heever, Thomas S. Thompson, Jonathan M. Curtis, Stephen F. Pernal

Food Analytical Methods **8(3)**, 767-777 (2015)

Published on-line 12 Aug 2014; DOI 10.1007/s12161-014-9956-x

113. Oxidative stability of UHT milk rich in conjugated linoleic acid and *trans*-vaccenic acid

Sergio I. Martínez-Monteagudo, Metzger Leal-Dávila, Jonathan Curtis, Marleny D.A. Saldaña

International Dairy Journal **43**, 70-77(2015)

114. Profiling of Phospholipids by Two Dimensional Liquid Chromatography coupled to in-line Ozonolysis-Mass Spectrometry

Chenxing Sun, Yuan-Yuan Zhao and Jonathan M. Curtis

J. Agric. Food Chem., **63(5)**, 1442–1451(2015)

DOI: 10.1021/jf5049595

115. Choline deficiency impairs intestinal lipid metabolism in the lactating rat
Robin P da Silva, Karen B Kelly, Kelly-Ann Leonard, Sue Goruk, Jonathan Curtis, Donna Vine, Spencer Proctor, Catherine J Field, René L Jacobs
Journal of Nutritional Biochemistry **26**, 1077-1083 (2015)
<http://dx.doi.org/10.1016/j.jnutbio.2015.04.015>

116. Regulation of autotaxin expression and secretion by lysophosphatidate and sphingosine 1-phosphate
Matthew G. K. Benesch, Yuan Y. Zhao, Jonathan M. Curtis, Todd P. W. McMullen, and David N. Brindley
Journal of Lipid Research **56**, 1134-1144 (2015)
DOI 10.1194/jlr.M057661

117. Stability of dicyclohexylamine and fumagillin in honey
Johan Philip van den Heever; Thomas S Thompson; Jonathan M Curtis, Stephen .F.Pernal
Food Chemistry, **179**, 152-158 (2015)
<http://dx.doi.org/10.1016/j.foodchem.2015.01.111>

118. A Flow-Through Enzymatic Microreactor for the Rapid Conversion of Triacylglycerols into FAEE or FAME Derivatives for GC Analysis
S. T. Anuar, S. M. Mugo and J. M. Curtis
Analytical Methods, **7**, 5898-5906 (2015)

119. Choline is required in the diet of lactating dams to maintain maternal immune function
Neele S. Dellschaft, Megan R. Ruth, Susan Goruk, Erin Lewis, Caroline Richard, René L. Jacobs, Jonathan M. Curtis, Catherine J. Field
British Journal of Nutrition **113(11)**, 1723-31 (2015)
doi: 10.1017/S0007114515001221.

120. Autotaxin is an inflammatory mediator and therapeutic target in thyroid cancer
Matthew G.K. Benesch, Yi M. Ko, Xiaoyun Tang, Jay Dewald, Ana Lopez-Campistrous, Yuan Y. Zhao, Raymond Lai, Jonathan M. Curtis, David N. Brindley* and Todd P.W. McMullen*
Endocrine Related Cancer **22(4)**, 593-607 (2015)

121. Preparation of Liposomes Using Supercritical Carbon Dioxide Technology: Effects of Phospholipids and Sterols
Lisha Zhao, Feral Temelli*, Jonathan Curtis, Lingyun Chen
Food Research International **77**, 63-72(2015)
DOI/10.1016/j.foodres.2015.07.006

122. Measurement of the abundance of choline and the distribution of choline-containing moieties in meat
Erin D. Lewis, Yuan-Yuan Zhao, Caroline Richard, Heather L. Bruce, René L. Jacobs, Catherine J. ^[SEP]Field, Jonathan M. Curtis* ^[SEP]
International Journal of Food Sciences and Nutrition **66(7)**, 743-748 (2015)

DOI 10.3109/09637486.2015.1088942

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DOI:10.1039/9781788013109-00175

C. Issued Patents

1. Microcapsules and emulsions containing low bloom gelatin and methods of making thereof

Described herein are microcapsules and emulsions prepared from low Bloom gelatin and methods of making and using thereof.

Inventors: Jonathan Michael Curtis, Wei **Zhang**, Yulai **Jin**, Colin James **Barrow**

US 8,034,450 issued Oct 11, 2011

US Pat. App 11227961 - Filed 15 Sep 2005

2. Homogenized formulations containing microcapsules and methods of making and using thereof

US Pat. App 11435605 - Filed 17 May 2006

Disclosed are homogenized formulations that comprise microcapsules. Also, disclosed are methods of making and using the disclosed homogenized formulations.

Inventors: Jonathan Michael Curtis, Wei **Zhang**, Sharon Ann **Spurvey**, Suzelle Rejeanne **Robert**

US 9,968,120 issued May 15, 2018

3. Microcapsules with improved shells

US Pat. App 12/308,045 filed 4 Jun 2007

Disclosed are microcapsules and methods for preparing and using them, as well as methods for improving various properties of microcapsules like impermeability.

Inventors: Jin **Yulai**, Colin James **Barrow**, Wei **Zhang**, Cuie **Yan**, Jonathan Michael Curtis, Shawn **Moulton**, Nancy Beatrice **Diogbenou**, Leseke Alexa **Demont**
US 9,056,058 issued June 16, 2015

4a. Polyol synthesis from fatty acids and oils

US Patent Application, filing date July 2010

The present invention relates to a process for the preparation of polyols from vegetable oils.

Inventors: **CURTIS**, Jonathan; **LIU**, Guoguang; **OMONOV**, Tolibjon and **KHARRAZ**, Ereddad

United States Patent US 9,216,940 B2 issued Dec 22 2015

4b. Polyol synthesis from fatty acids and oils

Canadian Patent 2,806,105 issued August 16th, 2017

(examined 11th July 2017) 17 claims

Inventors: **CURTIS**, Jonathan; **LIU**, Guoguang; **OMONOV**, Tolibjon and **KHARRAZ**, Ereddad

4c. Polyol synthesis from fatty acids and oils

European Patent 2,595,949 B1 issued July 24th, 2019

(filing date 11th July 2017) 17 claims

Inventors: **CURTIS**, Jonathan; **LIU**, Guoguang; **OMONOV**, Tolibjon and **KHARRAZ**, Ereddad

5. Method for Polyol Synthesis from Triacylglyceride Oils

The present invention relates to an improved process for the preparation of polyols from unsaturated triacylglycerol oil

Inventors: **CURTIS**, Jonathan; **OMONOV**, Tolibjon; **KHARRAZ**, Ereddad; **KONG**, Xiaohua and **TAVASSOLI-KAFRANI**, Mohammad Hossein

Date of Filing – June 24, 2015

PCT/CA2016050753 filed Jun.27,2016

PCT Pub.No.: WO2016/205958 Dec. 15, 2017

U.S. Patent Application Serial No. 15/736,999

U.S. Patent No. 10,189,761 issued Jan.29, 2019

6. Synthesis of Polyols Suitable for Castor Oil Replacement

The present invention relates to a process for the preparation of polyols from unsaturated triacylglycerol oils, which polyols may have properties similar to castor oil.

Inventors: **CURTIS**, Jonathan; **OMONOV**, Tolibjon and **KHARRAZ**, Ereddad

Filed July 31, 2015, Allowed Feb 22 2019
U.S. Patent No. 10,301,239 issued May 28, 2019

U.S. Patent Application Serial No. 15/748,149
International Patent Application Serial No. PCT/CA2016/050895 and an International Filing
Date of July 29, 2016.