Purolite® Life Sciences

# Technical Papers

| Product | Publication title | Reference | Published by |
|---|---|---|---|
| AP1090 | Process for immobilization of enzymes | US 2003/0203457 A1 | Novozymes |
| ECR resins | Using enzyme immobilization to boost industrial biocatalysis | A.Basso, G. Thundercliffe, Chemistry Today, 31 (2013) 54-55 | Purolite |
| ECR1030M | New highly robust divinyl benzene/acrylate polymer for immobilization of lipase CALB | A.Basso, L. Froment, M. Hesseler, S. Serban, Eur J Lipid Sci Technol, 115 (2013) 468–472 | Purolite |
| ECR1061M<br>ECR8804M<br>ECR8806M<br>ECR1090M<br>ECR1030M | Evaluation of different commercial hydrophobic supports for the immobilization of lipases: tuning their stability, activity and specificity | V. G. Tacias-Pascacio, S. Peirce, B. Torrestiana-Sanchez, M. Yates, A. Rosales-Quintero, J. J. Virgen-Ortíz, R. Fernandez-Lafuente, RSC Adv., 6 (2016), 100281-100294 | University of Madrid (Spain) |
| ECR8806 | Hydrophobic microenvironment optimization for efficient immobilization of lipases on octadecyl functionalised resins | A.Basso, M. Hesseler, S. Serban, Tetrahedron 72 (2016) 7323-7328 | Purolite |
| ECR8285 | Immobilization of SMG1-F278N lipase onto a novel epoxy resin: Characterization and its application in synthesis of partial glycerides | X. Li, D. Li, W. Wang, R. Durrani, B. Yang, Y. Wang, J Mol Catal B: Enzymatic 133 (2016) 154–160 | University of Technology, Guangzhou China |
| Purophase™<br>PCG600M<br>PCG900M<br>PCG1200M<br>PCG1200CPlus,<br>PCG1200MHEMA<br>70MN | An Investigation into the Effect of Chemical and Physical Polymer Structure on Reverse Phase Extraction of Small Molecules such as Paracetamol and Haloacetic Acids. | A.Basso, B. Summers, C. Bresner, S. Serban, Chromatography today, Nov-Dec 2016, 26-30 | Purolite |
| ECR8806 | Evaluation of different lipase biocatalysts in the production of biodiesel from used cooking oil: Critical role of the immobilization support | V. G. Tacias-Pascacio, J. J. Virgen-Ortíz, M. Jiménez-Pérez, M. Yates, B. Torrestiana-Sanchez, A. Rosales-Quintero, R. Fernandez-Lafuente, Fuel 200 (2017) 1–10 | University of Madrid (Spain) |
| ECR8806M<br>ECR1030M | Modulation of the regioselectivity of *Thermomyces lanuginosus* lipase via biocatalyst engineering for the Ethanolysis of oil in fully anhydrous medium | E. Abreu Silveira, S. Moreno-Perez, A. Basso, S. Serban, R. Pestana Mamede, P. W. Tardioli, C. Sanchez Farinas, J. Rocha-Martin, G. Fernandez-Lorente, J. M. Guisan, BMC Biotechnology 17 (2017) 88-100 | Campus UAM (Madrid, Spain) |
| Chromalite®<br>PCG600M<br>PCG900M<br>PCG1200M | Synthetic polymeric resins in downstream processing for food, fine chemicals and pharmaceuticals | A.Basso, B. Summers, S. Serban, C. Bresner, Chemistry Today, 35 (2017) 70-73 | Purolite |

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| **PCG1200CPlus, PCG1200MHEMA 70MN** | | | |
| **ECR1030M** | Immobilization of Candida antarctica Lipase B Onto ECR1030 Resin and its Application in the Synthesis of n-3 PUFA-Rich Triacylglycerols | D. Li, W. Wang, P. Liu, L. Xu, M. Faiza, B. Yang, L. Wang, D. Lan, Y. Wang, Eur. J. Lipid Sci. Technol. 2017, 1700266 | University of Guangzhou (China) |
| **ECR1508 ECR1504 ECR1604 PAD610 ECR8309 ECR8409 ECR8209 ECR8285** | A method for effective selection and optimization of immobilized biocatalyst | M. Polakovič, J. Adamíková, M. Antošová, Poster presentation at Biotrans conference 2017, Budapest | University of Bratislava (Slovakia) |
| **Macronet MN102** | Immobilization of Candida antarctica lipase B onto Purolite MN102 and its application in solvent-free and organic media esterification | M. Ćorović, M. Mihailović, K. Banjanac, M. Carević, A. Milivojević, N. Milosavić, D. Bezbradica, Bioprocess Biosyst Eng, 40 (2017) 23–34 | University of Belgrade (Serbia) |
| **Macronet MN102** | Batch and semicontinuous production of l-ascorbyloleate catalyzed by CALB immobilized ontoPurolite®MN102 | M. Ćorović, A. Milivojević, M. Carević, K. Banjanac, S. Jakovetić Tanasković, D. Bezbradica, Chem. Eng. Res. Desiign, 2017, 126, 161–171 | University of Belgrade (Serbia) |
| **MN102** | Batch and semicontinuous production of L-ascorbyl oleate catalyzed by CALB immobilized onto Purolite MN102 | M. Corovic, A. Milivojevic, M. Carevic, K. Banjanac, S. Jakovetic Tanaskovic, D. Bezbradica, Chemical Engineering Research and Design, 2017, 126, 161-171 | University of Belgrade |
| **ECR8804M ECR8806M** | Selective synthesis of partial glycerides of conjugated linoleic acids via modulation of the catalytic properties of lipases by immobilization on different supports | C. M. Verdasco-Martín, E. Garcia-Verdugo, R. Porcar, R. Fernandez-Lafuente, C. Otero, Food Chemistry, 2018, 245, 39–46 | University of Madrid (Spain) |
| **PuroSynth™** | Investigating green ethers for the precipitation of peptides after global deprotection in solid-phase peptide synthesis | O. Al Musaimi, Y. E. Jad, A. Kumar, J. M. Collins, A. Basso, B. G. de la Torre, F. Albericio, Curr Opin Green Sust Chemistry, 2018, 11, 99–103 | Purolite, CEM Corporation (USA), University of KwaZulu-Natal (South Africa), University of Barcelona (Spain) |
| **Immobilised transaminases (ATA) on ECR** | Biocatalytic conversion of 5-hydroxymethylfurfural: Synthesis of 2,5-bis (hydroxymethyl)furan and 5-(hydroxymethyl)furfurylamine | A.Petri, G. Masia, O. Piccolo, Catal Commun, 2018, 114, 15–18 | University of Pisa (Italy) |
| **ECR1030M ECR8806F ECR8204F** | How to optimise the immobilization of amino transaminases on synthetic enzyme carriers, to achieve up to a 13-fold increase in performances | A.Basso, W. Neto, S. Serban, B. Summers, Chemistry Today, 2018, 36(3), 40-42. | Purolite |
| **PuroSynth** | Investigating green ethers for the precipitation of peptides after global deprotection in solid-phase peptide synthesis | O. Al Musaimi, Y. E. Jad, A. Kumar, J. M. Collins, A. Basso, B. G. de la Torre, F. Albericio, Curr. Opin. Green Sustain. Chem. 2018, 11, 99-103, 10.1016/j.cogsc.2018.06.017. | Purolite, University of KwaZulu-Natal (South Africa) |

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| **PuroSynth** | Greening the Solid-Phase Peptide Synthesis Process. 2-MeTHF for the Incorporation of the First Amino Acid and Precipitation of Peptides after Global Deprotection | O. Al Musaimi, Y. E. Jad, A. Kumar, A. El-Faham, J. M. Collins, A. Basso, B. G. d. l. Torre, F. Albericio, , Org. Process Res. Dev. (2018), 10.1021/acs.oprd.8b00335. | Purolite, University of KwaZulu-Natal (South Africa) |
| **ECR8205F**<br>**ECR8214F** | Immobilization of lipase B from Candida antarctica on epoxy-functionalized silica: characterization and improving biocatalytic parameters | S. P. de Souza, R. A. D. de Almeida, A. D. Rayza, G. G. Garcia, R. A. C. Leao, J. Bassut, R. O. M. A. de Souza, I. Jr Itabaiana, Journal of Chemical Technology and Biotechnology, 2018, 93(1), 105-111. | University Rio de Janeiro, Brazil |
| **ECR8204** | Efficient Biocatalytic Synthesis of Chiral Intermediate of Pregabalin Using Immobilized Talaromyces thermophilus Lipase | X. Ding, X.-L. Tang, R.-C. Zheng, Y.-G. Zheng, BioMed Research International, Volume 2018, Article ID 6192059, 7 pages, https://doi.org/10.1155/2018/6192059 | University of Hangzhou, China |
| **Purolite P8204F**<br>**Purolite P8215F** | Designing continuous flow reaction of xylan hydrolysis for xylooligosaccharides production in packed-bed reactors using xylanase immobilized on methacrylic polymer-based supports | M. Romero-Fernandez, A. H. Orrego, S. Martins de Oliveira, J. M. Guisan, S. Moreno-Perez, R. I. Santamaria, M. Diaz, J. Rocha-Martin, Bioresource technology, 2018, 266249-258. | University of Madrid |
| **ECR8309M**<br>**ECR8409M**<br>**ECR8209M**<br>**ECR8285** | A Method of Early Phase Selection of Carrier for Aspergillus Oryzae β-Galactosidase Immobilization for Galactooligosaccharides Production | J. Adamíková, M. Antošová, M. Polakovič, Biotechnol. J. 2018, 1800120, DOI: 10.1002/biot.201800120 | University of Bratislava (Slovakia) |
| **Immobilised transaminases (ATA) on ECR** | Asymmetric synthesis of a high added value chiral amine using immobilized ω-transaminases | A.Petri, V. Colonna, O. Piccolo, Beilstein J Org Chem, 2019, 15, 60–66 | University of Pisa (Italy) |
| **PuroSynth™** | Greening the Solid-Phase Peptide Synthesis Process. 2-MeTHF for the Incorporation of the First Amino Acid and Precipitation of Peptides after Global Deprotection | O. Al Musaimi, Y. Jad, A. Kumar,A. El-Faham, J. Collins, A. Basso, B. de la Torre, F. Albericio, Org Proc Res Devel, 2019, under publication | Purolite, University of KwaZulu-Natal (South Africa) |
| **PuroSynth™** | Jetting Manufacturing of Resins for Solid-Phase Peptide Synthesis | O. Al Musaimi, S. Serban, Y. E. Jad, Z. Ma A. Kumar, C. Ji, B. G. de la Torre, A. Basso, F. Albericio, Chemistry Today, 2019, 37, 20-23 | Purolite, University of KwaZulu-Natal (South Africa) |
| **ECR8309F**<br>**ECR8409F** | One-Pot Enzymatic Production of Lignin-Composites | S. Ion, C. Opris, B. Cojocaru, M. Tudorache, I. Zgura, A. C. Galca, A. M. Bodescu, M. Enache, G.-M. Maria, V. I. Parvulescu, Frontiers in Chemistry, 2019, 6, 1-9 | University of Bucarest |
| **ECR8806**<br>**ECR8804**<br>**ECR1061** | Rapid and high yield production of phospholipids enriched in CLA via acidolysis: The critical role of the enzyme immobilization protocol | C. M. Verdasco-Martín, C. Corchado-Lopo, R. Fernández-Lafuente, C. Otero, Food Chemistry, 2019, 296, 123-131 | University of Madrid |

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| **PuroSynth** | New Manufacturing Process to produce Highly Uniform Resins with Excellent Performances in solid phase peptide synthesis | O. Al Musaimi, S. Serban, Y. E. Jad, Z. Ma, A. Kumar, C. Ji, B. G. d. l. Torre, Nathan R. East, A. Basso, F. Albericio, , Chimica Oggi/Chemistry Today, 2019, 37(2), 8-10. | Purolite, University of KwaZulu-Natal (South Africa) |
| **PuroSynth** | Jetting manufacturing of resins for solid-phase peptide synthesis | O. Al Musaimi, S. Serban, Y. E. Jad, Z. Ma, A. Kumar, C. Ji, B. G. d. l. Torre, A. Basso, F. Albericio, , Chimica Oggi/Chemistry Today 2019, 37(1), 20-23. | Purolite, University of KwaZulu-Natal (South Africa) |
| **PuroSynth** | Bypassing Osmotic Shock Dilemma in a Polystyrene Resin Using the Green Solvent Cyclopentyl methyl Ether (CPME): A Morphological Perspective | Al Musaimi, O.; El-Faham, A.; Almarhoon, Z.; Basso, A.; de la Torre, B.G.; Albericio, F. Polymers 2019, 11, 874. | Purolite, University of KwaZulu-Natal (South Africa) |
| **PuroSynth** | γ-valerolactone (gvl): An eco-friendly anchoring solvent for solid-phase peptide synthesis | Al Musaimi, O.; El-Faham, A.; Basso, A.; de la Torre, B.G.; Albericio, F. Tetrahedron Letters 2019. 10.1016/j.tetlet.2019.151058 | Purolite, University of KwaZulu-Natal (South Africa) |
| **PCG1200M** | Development of a novel combined IEX-RP chromatographic process for the purification of bivalirudin | A . Basso, B. D. Summers, C. Bresner, S. Serban, Chromatography Today, 2019, 08/09, 38-42. | Purolite |
| **ECR1604** | Novel Combi-lipase systems for fatty acid ethyl esters production | E. C. Toro, D. F. Rodriguez, N. Morales, L. M. Garcia, C. A. Godoy, Catalysts, 2019, 9(6), 546. | University del Valle, CA, USA University of Santiago, Chile |
| **ECR8806** | Biocatalyst engineering of Thermomyces Lanuginosus lipase adsorbed on hydrophobic supports: Modulation of enzyme properties for ethanolysis of oil in solvent-free systems | E. Abreu Silveira, S. Moreno-Perez, A. Basso, S. Serban, R. Pestana-Mamede, P. W. Tardioli, C. S. Farinas, N. Castejon, G. Fernandez-Lorente, J. Rocha-Martin, J. M. Guisan, Journal of Biotechnology, 2019, 289, 126-134. | University of Madrid, Spain Purolite |
| **ECR and Immobilized enzymes** | Industrial applications of immobilized enzymes–A review | A.Basso, S. Serban, Molecular Catalysis, 2019, 479, 110607. | Purolite |
| **PCG1200MS 10AD2** | Development of a novel combined IEX-RP chromatographic process for the purification of bivalirudin | A.Basso, B. D. Summers, C. Bresner, Chromatography Today, 2019, August /September 2019, 38-42. | Purolite |
| **ECR8806M** | Production and characterization of biodiesel from oil of fish waste by enzymatic catalysis | J. Ching-Velasquez, R. Fernández-Lafuente, R. C. Rodrigues, V. Plata, A. Rosales-Quintero, B. Torrestiana-Sánchez, V. G. Tacias-Pascacio, Renewable Energy, 2020, 153, 1346-1354 | University of Mexico |

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