

## PATENTS

March 2026

- **Sole Inventor of filed patent application** — advancing biobased polyesters / poly(ethylene furanoate) (PEF) materials (March 2026, Patent Pending; Avantium – The Netherlands).

REFEREED JOURNAL PUBLICATIONS ([LINK](#))

- **27 peer-reviewed publications** | h-index: **22** | > **1260 citations** ([Google Scholar](#))
  - Top Co-authors: Prof. Dimitrios Bikiaris ([LINK](#)): [21] - Prof. George Z. Papageorgiou ([LINK](#)): [20]
- (27) N. Kasmi\*, Y. Chebbi, A. Lorenzetti, M. Hakkarainen\*. Highly transparent polyurethane thermosets with tunable properties and enzymatic degradability derived from polyols originating from hemicellulosic sugars, *Green Chemistry* **2023**, 25, 9908-9925. [LINK](#)
  - (26) N. Kasmi, E. Bäckström, M. Hakkarainen\*. Open-loop recycling of post-consumer PET to closed-loop chemically recyclable high-performance polyimines, *Resources, Conservation and Recycling* **2023**, 193, 106974. [LINK](#)
  - (25) M. Safari, N. Kasmi, C. Pisani, V. Berthé, A. J. Müller\*, Y. Habibi. Effect of the structural features of linear bio-based polyester plasticizers on the crystallization of polylactides, *International Journal of Biological Macromolecules* **2022**, 214, 128-139. [LINK](#)
  - (24) N. Kasmi\*, Z. Terzopoulou, Y. Chebbi, R. Dieden, Y. Habibi, D.N. Bikiaris. Tuning thermal properties and biodegradability of poly(isosorbide azelate) by compositional control through copolymerization with 2,5-furandicarboxylic acid, *Polym. Degrad. Stab.* **2022**, 195, 109804. [LINK](#)
  - (23) D. G. Papageorgiou\*, I. Tsetsou, R. O. Ioannidis, G. Nikolaidis, S. Exarhopoulos, N. Kasmi, D. N. Bikiaris, D. Achilias, G. Z. Papageorgiou\*. A new era in engineering plastics: compatibility and perspectives of sustainable aliphatic poly(ethylene terephthalate)/poly(ethylene 2,5-furandicarboxylate) blends, *Polymers* **2021**, 13(7), 1070. [LINK](#)
  - (22) L. Papadopoulos, A. Zamboulis, N. Kasmi, M. Wahbi, C. Nannou, D. A. Lambropoulou, M. Kostoglou, G. Z. Papageorgiou, D. N. Bikiaris\*. Investigation of the catalytic activity and reaction kinetic modeling of two antimony catalysts in the synthesis of poly(ethylene furanoate), *Green Chemistry* **2021**, 23, 2507-2524. [LINK](#)
  - (21) N. Kasmi, C. Pinel, D. Da Silva Perez, R. Dieden, Y. Habibi. Synthesis and characterization of fully biobased polyesters with tunable branched architectures, *Polymer Chemistry* **2021**, 12, 991-1001. [LINK](#)
  - (20) N. Kasmi, L. Papadopoulos, Y. Chebbi, G.Z. Papageorgiou, D.N. Bikiaris\*. Effective and facile solvent-free synthesis route to novel biobased monomers from vanillic acid: Structure-thermal property relationships of sustainable polyesters, *Polym. Degrad. Stab.* **2020**, 181, 109315. [LINK](#)
  - (19) Z. Terzopoulou, M. Wahbi, N. Kasmi, G.Z. Papageorgiou, D.N. Bikiaris\*. Effect of additives on the thermal and thermo-oxidative stability of poly(ethylene furanoate) biobased polyester, *Thermochim. Acta* **2020**, 686, 178549. [LINK](#)
  - (18) B. Quienne, N. Kasmi, R. Dieden, S. Caillol, Y. Habibi\*. Isocyanate-free fully biobased star polyester-urethanes: synthesis and thermal properties, *Biomacromolecules*, **2020**, 21, 5, 1943–1951. [LINK](#)
  - (17) N. Kasmi, N. Ainali, E. Agapiou, L. Papadopoulos, G.Z. Papageorgiou, D.N. Bikiaris\*. Novel High Tg fully biobased poly(hexamethylene-co-isosorbide-2,5-furan dicarboxylate) Copolyesters: Synergistic Effect of Isosorbide Insertion on Thermal performance Enhancement, *Polym. Degrad. Stab.* **2019**, 169, 108983. [LINK](#)
  - (16) N. Kasmi, M. Wahbi, L. Papadopoulos, Z. Terzopoulou, N. Guigo, N. Sbirrazzuoli, G.Z. Papageorgiou\*, D.N. Bikiaris\*. Synthesis and characterization of two new biobased poly(pentylene 2,5-furandicarboxylate-co-caprolactone) and poly(hexamethylene 2,5-furandicarboxylate-co-caprolactone) copolyesters with enhanced enzymatic hydrolysis properties, *Polym. Degrad. Stab.* **2019**, 160, 242- 263. [LINK](#)
  - (15) N. Kasmi, N. Pouloupoulou, Z. Terzopoulou, D.G. Papageorgiou\*, D.N. Bikiaris, G.Z. Papageorgiou\*. Sustainable Thermoplastics from Renewable Resources: Thermal behavior of Poly(1,4-cyclohexane dimethylene 2,5-furandicarboxylate), *Eur. Polym. J.* **2019**, 112, 1-14. [LINK](#)
  - (14) Y. Chebbi, N. Kasmi, M. Majdoub, P. Cerruti, G. Scarinzi, M. Malinconico, G. Dal Poggetto, G.Z. Papageorgiou, D.N. Bikiaris\*. Synthesis, Characterization, and Biodegradability of Novel Fully Biobased Poly(decamethylene-co-isosorbide 2,5-furandicarboxylate) Copolyesters with Enhanced Mechanical Properties, *ACS Sustain. Chem. Eng.* **2019**, 7, 5501-5514. [LINK](#)
  - (13) Y. Chebbi, N. Kasmi, M. Majdoub, G.Z. Papageorgiou\*, D.N. Achilias, D.N. Bikiaris\*. Solid-State Polymerization of Poly(Ethylene Furanoate) Biobased Polyester, III: Extended Study on Effect of Catalyst Type on Molecular Weight Increase, *Polymers* **2019**, 11, 438. [LINK](#)
  - (12) N. Pouloupoulou, A. Pipertzis, N. Kasmi, D.N. Bikiaris, D.G. Papageorgiou, G. Floudas, G.Z. Papageorgiou\*. Green polymeric materials: On the dynamic homogeneity and miscibility of furan-based polyester blends, *Polymer* **2019**, 174, 187-199. [LINK](#)
  - (11) N. Pouloupoulou, N. Kasmi, M. Siampani, Z.N. Terzopoulou, D.N. Bikiaris, D.S. Achilias, D.G. Papageorgiou\*, G.Z. Papageorgiou\*. Exploring Next-Generation Engineering Bioplastics: Poly(alkylene furanoate)/Poly(alkylene terephthalate) (PAF/PAT) Blends, *Polymers* **2019**, 11, 556. [LINK](#)

- (10) Z. Terzopoulou, E. Tarani, [N. Kasmi](#), L. Papadopoulos, K. Chrissafis\*, D.G. Papageorgiou, G.Z. Papageorgiou, D.N. Bikiaris\*. Thermal Decomposition Kinetics and Mechanism of In-Situ Prepared Bio-Based Poly(propylene 2,5-furan dicarboxylate)/Graphene Nanocomposites, *Molecules* **2019**, *24*, 1717. [LINK](#)
- (9) [N. Kasmi](#), M. Majdoub, G.Z. Papageorgiou\*, D.N. Bikiaris\*. Synthesis and crystallization of new fully renewable resources-based copolyesters: Poly(1,4-cyclohexanedimethanol-co-isosorbide 2,5-furandicarboxylate), *Polym. Degrad. Stab.* **2018**, *152*, 177-190. [LINK](#)
- (8) [N. Kasmi](#), G.Z. Papageorgiou\*, D.S. Achilias, D.N. Bikiaris\*. Solid-State Polymerization of Poly(Ethylene Furanoate) Biobased Polyester. II: An Efficient and Facile Method to Synthesize High Molecular Weight Polyester Appropriate for Food Packaging Applications, *Polymers* **2018**, *10*, 471. [LINK](#)
- (7) [N. Kasmi](#), Z. Terzopoulou, G.Z. Papageorgiou, D.N. Bikiaris\*. Poly(1,4-cyclohexanedimethylene 2,6-naphthalate) polyester with high melting point: effect of different synthesis methods on molecular weight and properties, *eXPRESS Polym. Lett.* **2018**, *12*, 227-237. [LINK](#)
- (6) N. Pouloupoulou, [N. Kasmi](#), D.N. Bikiaris, D.G. Papageorgiou, G. Floudas, G.Z. Papageorgiou\*. Sustainable polymers from renewable resources: Polymer blends of furan-based polyesters, *Macromol. Mater. Eng.* **2018**, 1800153. [LINK](#)
- (5) [N. Kasmi](#), M. Majdoub, G.Z. Papageorgiou\*, D.S. Achilias, D.N. Bikiaris\*. Solid-state polymerization of poly(ethylene furanoate) biobased polyester. I: Effect of catalyst type on molecular weight increase, *Polymers* **2017**, *9*, 607. [LINK](#)
- (4) [N. Kasmi](#), M. Roso, N. Hammami, M. Majdoub, C. Boaretti, P. Sgarbossa, C. Vianello, G. Maschio, M. Modesti, A. Lorenzetti\*. Microwave-assisted synthesis of isosorbide-derived diols for the preparation of thermally stable thermoplastic polyurethane, *Des. Monomers Polym.* **2017**, *20*, 547-563. [LINK](#)
- (3) Z. Terzopoulou, [N. Kasmi](#), V. Tsanaktsis, N. Doullakas, D.N. Bikiaris\*, D.S. Achilias, G.Z. Papageorgiou\*. Synthesis and Characterization of Bio-Based Polyesters: Poly(2-methyl-1,3-propylene-2,5-furanoate), Poly(isosorbide-2,5-furanoate), Poly(1,4-cyclohexanedimethylene-2,5-furanoate), *Materials* **2017**, *10*, 801. [LINK](#)
- (2) Z. Terzopoulou, E. Karakatsianopoulou, [N. Kasmi](#), V. Tsanaktsis, N. Nikolaidis, M. Kostoglou, G.Z. Papageorgiou, D.A. Lambropoulou, D.N. Bikiaris\*. Effect of catalyst type on molecular weight increase and coloration of poly(ethylene furanoate) biobased polyester during melt polycondensation, *Polym. Chem.* **2017**, *8*, 6895-6908. [LINK](#)
- (1) Z. Terzopoulou, E. Karakatsianopoulou, [N. Kasmi](#), M. Majdoub, G.Z. Papageorgiou, D.N. Bikiaris\*. Effect of catalyst type on recyclability and decomposition mechanism of poly(ethylene furanoate) biobased polyester, *J. Anal. Appl. Pyrolysis* **2017**, *126*, 357-370. [LINK](#)