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Fully bio-based poly(propylene succinate-co-propylene furandicarboxylate) copolyesters with proper mechanical, degradation and barrier properties for green packaging applications

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Abstract: A series of aromatic-aliphatic poly(propylene succinate-co-furandicarboxylate) (PPSF) copolyesters, with compositions varied over the whole range from that of poly(propylene succinate) (PPS) to poly(propylene furandicarboxylate) (PPF), were synthesized by transesterification and melt polycondensation. ¹H-NMR study suggested the random segment distribution of PPSF. The copolymer showed slower crystallization rate than that of terephthalate based copolyesters, as indicated by DSC tests. PPSFs with low furandicarboxylate molar

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