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Keywords: Plastics; Biodegradation; Enzymes; Biocatalyst; Upcycling

Introduction

China is currently the world's largest manufacturer of plastic, accounting for 32% of all plastic produced globally, and production is expected to reach about 370 million tonnes in 2020. e desirable properties and adaptability of plastics, which enable their use in a variety of applications including packaging, automotive, building and construction, electrical and electronic, and common household products, are primarily responsible for the rising trend in plastic production [1,2]. Also, the coronavirus disease outbreak in 2019 has shown once again how crucial plastics are in the production of personal protective equipment Most personal protective equipment is constructed of plastics including polyurethane, polypropylene, polycarbonate, low-density polyethylene, and polyvinyl chloride, including face masks, gloves, medical gowns, and face shields. Other than PPEs, e demand for plastics used in the packaging industry, including as high-density polyethylene (LDPE), polystyrene, and polyethylene terephthalate, has increased due to the COVID-19's increased demand for packaging materials, notably single-use plastics [3,4]. As of 2015, there were around 6300 tonnes of plastic trash generated as a result of the exponentially rising plastics use. Just 9% of the total plastic garbage was recycled, 12% was burned, and the other 79% was deposited in land lls. A shocking amount of 12,000 tonnes of plastic garbage was predicted to have accumulated in land lls or in the natural environment based on the existing manufacturing and waste management patterns. Plastic pollution has grown to be a signi cant global problem. e sustainability of the environment has been threatened by the buildup of plastic garbage in the ecosystem.

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recovered through chemical recycling hydrogen, syngas, carbon-based materials, liquid oils with high heating values, and polymers. e procedures used for chemical plastic recycling are shown in Table 2. Although chemical recycling is thought to be a promising strategy for the e cient management of plastic wastes, there are still a number of issues that need to be resolved. More research is needed on the tolerance, recovery, and reusability of catalysts in large-scale systems. Also, the harsh conditions required in these chemical reactions add to the environment's exposure to dangerous substances including sulphur, carbon, and other volatile gases. As a result of exposure to heat, moisture, and UV light in the environment, plastic wastes degrade abiotically, releasing extremely hazardous substances such persistent organic pollutants from the plastic surfaces and chemical additives seeping out of the plastic wastes. Furthermore, there is growing worry over the abiotic decomposition of plastic wastes into micro- or nanoplastics, which are easily absorbed by water bodies and pose a threat to human health as well as marine life.

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Con ict of Interest

None

References

1. Ma D, Wang Y, Dai W (2018) Silk fbroin-based biomaterials for musculoskeletal tissue engineering. Mater Sci Eng C 89: 456-469.
2. Singh D, Harding AJ, Albadawi E, Boissonade FM, Haycock JW, et al. (2018) Additive manufactured biodegradable poly(glycerol sebacate methacrylate) nerve guidance conduits. Acta Biomater 78: 48-63.
3. Cheng G, Davoudi Z, Xing X, Yu X, Cheng X, et al. (2018) Advanced Silk Fibroin Biomaterials for Cartilage Regeneration. ACS Biomater Sci Eng 4: 2704-2715.
4. Yodmuang S, McNamara SL, Nover AB, Mandal BB, Agarwal M, et al. (2015). Silk microfber-reinforced silk hydrogel composites for functional cartilage tissue repair. Acta Biomater 11: 2736.
5. GUI L, Niklason LE (2014) Vascular Tissue Engineering: Building Perfusable Vasculature for Implantation. Curr Opin Chem Eng 3: 68-74.
6. Howard D, Buttery LD, Shakeshef KM, Roberts SJ Tissue engineering: Strategies, stem cells and scafolds. J Anat 213: 66-72.
7. Dhar P, Fischer TM, Wang Y, Mallouk TE, Paxton WF, et al. (2006) Autonomously moving nanorods at a viscous interface. Nano Lett 6: 66-72.
8. Brown BN, Badylak SF (2014) Extracellular matrix as an inductive scafold for functional tissue reconstruction. Transl Res 163: 268-285.
9. Glowacki J, Mizuno S (2008) Collagen scafolds for tissue engineering. Biopolymers 89: 338-344.
10. Koide A, Bailey CW, Huang X, Koide S (1998) The fbronectin type III domain as a scafold for novel binding proteins. J Mol Biol 284: 1141-1151.