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*Impulso*

Chemical Recycling of Plastics: Where we are  
and how to improve the recycling rates



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Nowadays, less than 8% of the polymers produced each year are recycled and most of them are mechanically recycled: grinding and melt-processing, to obtain a low-quality material that will also rapidly end up as a waste.[1] Besides mechanical recycling and pyrolysis, chemical recycling of plastic has emerged as a method to retain the value of the plastics as it allows to obtain high purity monomers. [2] As plastics have been traditionally designed for durability and not for recyclability, their chemical conversion to new products is nowadays considered a grand challenge and difficult to achieve.[3] In this lecture we will summarize our main activities towards the selective chemical recycling of plastics and how we are trying to increase current recycling rates.

References

[1] Sardon H.\* & Dove A.P., Plastic Recycling with a difference Science. 2018, 360. 380-381

[2] Jehanno C., Perez-Madrigal M., Demarteau J., Sardon H., Dove A.P., Organocatalysis for depolymerisation J Polym. Chem. 2019, 10, 172-18

[3] Jehanno C., Flores I., Dove A.P., Müller A.J., Ruipérez F., & Sardon H.\* Organocatalysed depolymerisation of PET in a fully sustainable cycle using thermally stable protic ion-ic salt Green Chem. 2018,20, 1205-1212