
Scope and challenges for organic solar cells in the current race to performance

Ludovic Torteche*^{†2,1}

²Laboratoire d'Innovation en Chimie des Surfaces et Nanosciences (LICSEN) – CEA – 91191
Gif-sur-Yvette cedex, France

¹Institut Parisien de Chimie Moléculaire (IPCM) – CNRS : UMR8232, Université Pierre et Marie Curie
(UPMC) - Paris VI – 4 place Jussieu, 75005 Paris, France

Abstract

After a brief state of art of the challenges of renewable energy and more specifically of the solar cells, the place of organic solar devices will be discussed in front of competitive technology such as Perovskite or CIGS. Indeed organic solar cells reveal numerous advantages competing with higher efficiency devices. Despite that, numerous challenges are emerging with the constant increase of the performance of organic solar cells (OSC); the optimization at each step of the electronic processes becomes critical. We will pay a specific attention to the charges collection at the electrode and more specifically at the anodic side of the device emphasizing the energetic leveling of each material involved.

*Speaker

[†]Corresponding author: ludovic.tortech@upmc.fr