**Link:** <https://solar-power-tech.com/e-posters/dsc_eposter_08/>

**Abstract**

Over the past decades, the worldwide energy consumption has deeply increased and will continue to grow in the coming years. However, the major part of the energy comes from fossil resources, inducing negative impact on the environment. Thus, it becomes a necessity to rely on renewable energies. Sunlight, and more specifically photovoltaics (PVs) is a perfect alternative to non-sustainable fossil fuels. An original approach, consisting in developing transparent and colorless solar panels, represents a “disruptive technology” because it opens new applications1. Indeed, transparent solar cells would be suitable for integration in Building-Integrated Photovoltaics (BIPV) but also for electric vehicles, and self-powered greenhouses.

Dye Sensitized Solar Cell (DSSC) presents very interesting properties for the development of colorless photovoltaic cell2. Indeed, they are potentially cheap to produce and their efficiencies are less dependent of the light incidence angle and intensity. Moreover, they are naturally semitransparent and the color of the device is afforded by the dye itself. Thus, the integration of selective Near Infrared (NIR) absorbing dyes in such devices would lead to perfectly colorless photovoltaic systems3. Towards this objective, we synthetized and characterized new pyrrolopyrrole cyanine derivatives4 the preliminary results present outstanding results, with an efficiency close to 4% combined with a transparency higher than 65%.