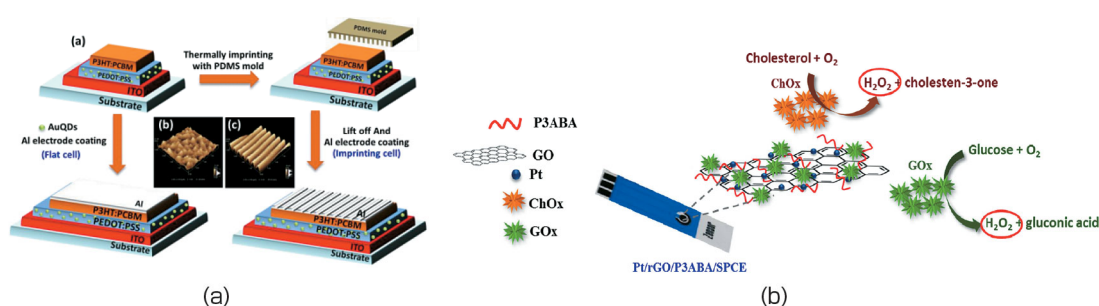


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キーワード	Organic solar cells, Biosensors, Nanomaterials, Plasmonic nanostructures			

- Investigation of nanomaterials for improving the performances of organic thin-film solar cells, electrochemical biosensors, and supercapacitors
- Development of screen-printed carbon electrodes for the detection of chemical and biological components
- Fabrication of plasmonic nano-architectures on electrode surface to enhance photoelectrochemical sensor



研究分野

Figure 1 (a) Fabricated OSCs with plasmonic nanostructure (Ref. *Nanoscale Adv.* 2020.) and (b) fabrication of glucose and cholesterol biosensors (Ref. *Bioelectrochemistry*, 127, 2019, 125-135.)

Research publications

1. S. Phetsang, *et al.* Enhancement of organic solar cell performance by incorporating gold quantum dots (AuQDs) on a plasmonic grating, *Nanoscale Adv.* 2, 2020, 2950-2957.
2. S. Phetsang, *et al.* Investigation of a gold quantum dot/plasmonic gold nanoparticle system for improvement of organic solar cells, *Nanoscale Adv.* 1, 2019, 792-798.
3. S. Phetsang, *et al.* Sensitive amperometric biosensors for detection of glucose and cholesterol using a platinum/reduced graphene oxide/poly(3-aminobenzoic acid) film-modified screen- printed carbon electrode, *Bioelectrochemistry*, 127, 2019, 125-135.

技術PR・
企業に向けて

Material science plays an important role in the development of a variety of nanotechnologies which expected to benefit society in the world. Based on research, biosensors have been extensively used in many fields including medical diagnosis, healthcare, food safety, and environmental and industrial monitoring. Also, solar energy is one of the promising candidates for renewable power sources in the future.