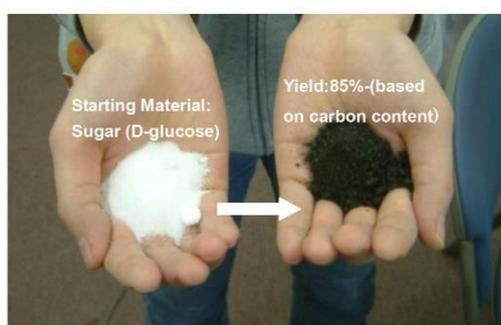
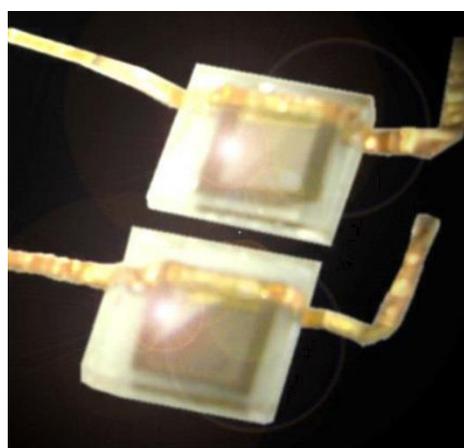


Creation of Novel Catalysts and Materials for the Eco-Friendly Production of Energy and Chemicals

It is essential for our survival to produce chemicals and energy with small environmental load. We have been trying to create materials and catalysis for the eco-friendly production of chemicals and energy. Our “sugar catalyst” –which is composed of nanographen sheets- exhibits remarkable catalytic performance for the production of biofuels and various industrially important chemicals. We have also found that pyrolysis of abundant and inexpensive organic compounds results in a novel n-type semiconductor and have been constructing a new solar cell based on the material.



An amorphous carbon consisting of nanosized graphene sheets (1-2 nm) with large amounts of SO₃H group



Novel solar cell system based on a n-type carbon semiconductor