

Fabrication and Electrochemical
Characterization of Langmuir-Schaefer films of
Nafion/TiO₂ Composite

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Langmuir-Schaefer films (LS) of Nafion/TiO₂
have been fabricated using an acidic TiO₂
colloidal solution as a subphase. Surface
pressure-area isotherm of the composite system
showed a stable Langmuir-Schaefer monolayer
at air-water interface. The uniform deposition
of Nafion/TiO₂ composite monolayers were
verified by UV-Vis absorption and QCM
measurements. The structural properties of
Nafion/TiO₂ composite were also investigated
using Brewster angle microscopy, atomic force
microscopy and scanning electronic
microscopy.

The electrochemical behaviour of Nafion/TiO₂
composite are also investigated and discussed.
This work also reports the preliminary
photocurrent response of
Nafion/TiO₂/Ruthenium dye composite for
application as a photovoltaic cell.