



Highlighting research on visible light assisted methane conversion to syngas by a group of researchers led by Dr Petar Djino*vi*ć and Dr Kristijan Lorber from the National Institute of Chemistry, Slovenia.

Non-oxidative calcination enhances methane dry reforming performance of Ni/CeO_{2-x} catalysts under thermal and photo-thermal conditions

Calcination of the Ni/CeO₂ catalyst in air, argon or hydrogen is a simple technique to manipulate nickel dispersion and oxygen vacancies in ceria. Catalyst illumination by visible light during the methane dry reforming reaction decomposes surface carbonates, desorbs carbonyl species from the nickel surface and promotes adsorption and dissociation of methane. By combining photo-thermal energy with nickel-ceria surface chemistry modification, highly active interfacial surface sites are unlocked, thus enabling the DRM reaction to proceed with Ea value of 20 kJ/mol.

As featured in:



See Petar Djino*vi*ć *et al.*,
J. Mater. Chem. A, 2024, **12**, 19910.