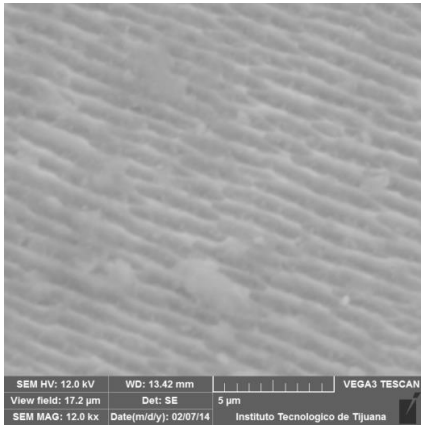
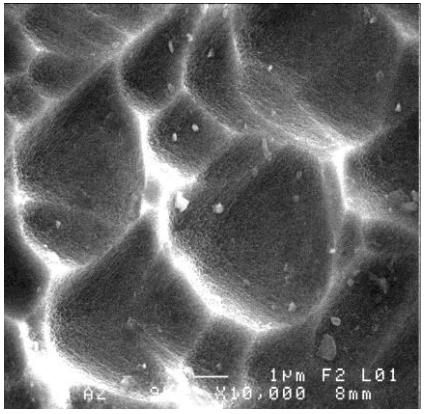
OUEST VALORISATION

TECHNOLOGY OFFER

HF free porous silicon synthesis by electro-oxydation of metallurgical grade silicon

NEW ETCHING AGENT/SUPPORTING ELECTROLYTE





CONTACT

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TECHNOLOGY

Porous silicon is currently synthetized using hydrofluoric acid as etching agent.

The present invention describes a new etching agent/ supporting electrolyte without hydrofluoric acid.

The porous silicon is prepared by electrochemical etching of metallurgical grade silicon using simple cell with multiple compartments.

Pictures of the porous silicon obtained by the process are presented on the left.

APPLICATIONS

- Microelectronic
- Energy
- Biomedical and Sensor

KEY BENEFITS

- New etching agent/supporting electrolyte without hydrofluoric acid
- Metallurgical grade silicon as starting material (instead of silicon wafer)
- One-step enrichment up to 99.99% content of silicon
- Any mechanical form of silicon alloy (pieces with linear dimensions or diameters from 0.2 to 2 cm) can be used

STAGE OF DEVELOPMENT

A prototype has been developed and several porous silicon samples have been synthesized and characterized

INTELLECTUAL PROPERTY

European patent application filed in 2016

LABORATORY

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