Illustrative research project

MULTIFUNCTIONAL CATALYTIC SUPPORT WITH METALLIC SKELETON

MATNANTECH project 109 (2002-2004)

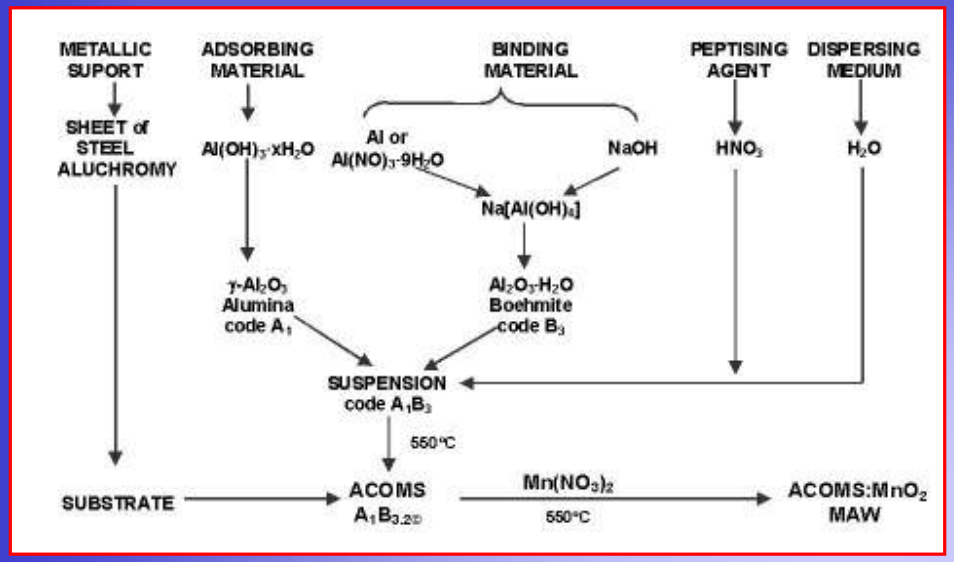
Project director:Dr. Elisabeth-Jeanne Popovici

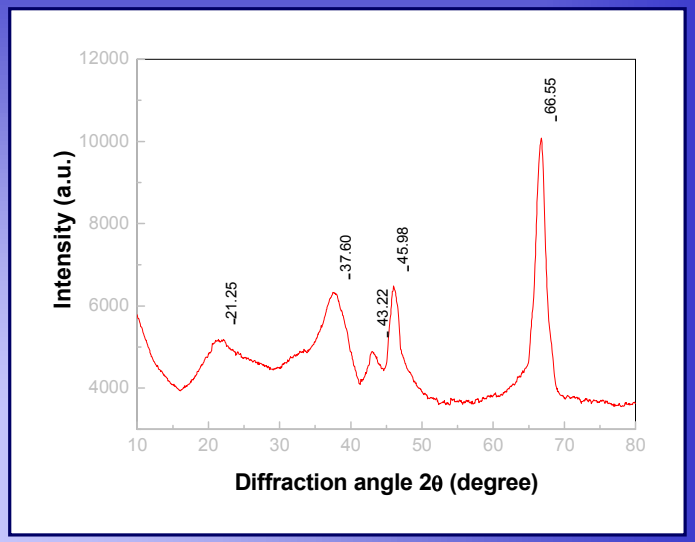
Results

- **Special metallic cartrige with porous coating for catalytic purposes = Metallic skeleton of honeycomb type coated with a layer of alumina-based porous material to be used after enbeding /doping with catalytic active compounds ⇒ *Catalitic Support with Metallic Skeleton-SCSM***
  - **Technology for the manufacture of nanostructured monohidrated-alumina ;**
  - **Technology and composition for the manufacture of alumina-based porous coating on metallic support for catalytic purposes;**
  - **Procedure for Mn-doping of the porous layer for ozone catalytic decomposition ;**
  - **Demonstration of SCSM functionality by "Mn-doping" and testing in the process of ozone decomposition.**
- **Papers**
- **Romanian patent application CBI 01108/ 10.12.2004**

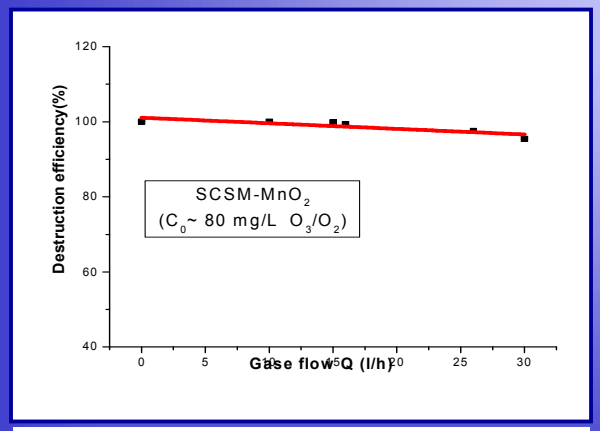
Researches supported also by S.C. RAAL S.A. Bistrita

Coating of the catalitic support with alumina-based porous layer





XRD pattern of the porous coating



Testing the system SCSM- MnO_2 in the process of ozone decomposition

$O_3 \longrightarrow 3/2O_2$

Porosity characteristics:

- **pore volume: 0.283 cm^3/g;**
- **surface area:173 m^2/g**