Title: Recent Developments in Nanostructured Inorganic Materials for Sorption of Cesium and Strontium: Synthesis and Shaping, Sorption Capacity, Mechanisms, and Selectivity – A Review

Authors: Delhia Alby, Clarence Charnay, Marc Heran, Bénédicte Prelot, Jerzy Zajac

PII: S0304-3894(17)30803-8
DOI: https://doi.org/10.1016/j.jhazmat.2017.10.047
Reference: HAZMAT 18952

To appear in: *Journal of Hazardous Materials*

Received date: 4-8-2017
Revised date: 19-10-2017
Accepted date: 22-10-2017

Please cite this article as: Delhia Alby, Clarence Charnay, Marc Heran, Bénédicte Prelot, Jerzy Zajac, Recent Developments in Nanostructured Inorganic Materials for Sorption of Cesium and Strontium: Synthesis and Shaping, Sorption Capacity, Mechanisms, and Selectivity – A Review, Journal of Hazardous Materials https://doi.org/10.1016/j.jhazmat.2017.10.047

Recent Developments in Nanostructured Inorganic Materials for Sorption of Cesium and Strontium: Synthesis and Shaping, Sorption Capacity, Mechanisms, and Selectivity – A Review

Delhia Alby[1], Clarence Charnay[1], Marc Heran[2], Bénédicte Prelot[1], Jerzy Zajac[1*]

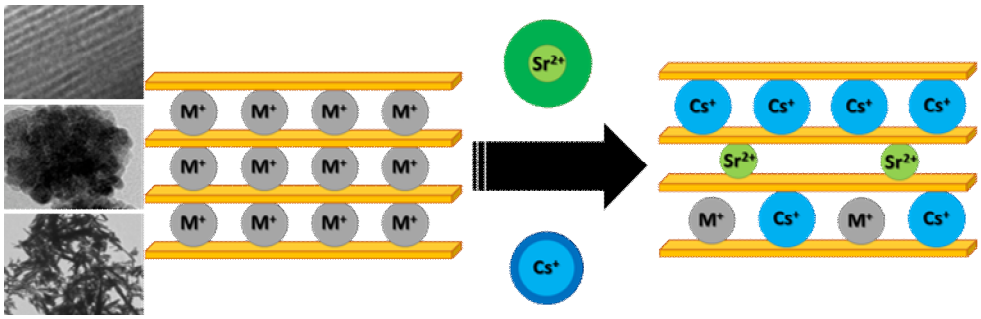
[1]*Institut Charles Gerhardt, UMR-5253 CNRS-UM-ENSCM,*
[2]*Institut Européen des Membranes, UMR5635 CNRS-UM-ENSCM,*
Université de Montpellier, Place E. Bataillon, F-34095 Montpellier cedex 5, France

* Corresponding Author:

Prof. Dr. Jerzy Zajac, University of Montpellier,

Phone: +33 4 67 14 32 55, E-mail: jerzy.zajac@umontpellier.fr

Graphical Abstract



Highlights for

- Recent Developments in Nanostructured Inorganic Materials for Sorption of Cesium and Strontium: Synthesis and Shaping, Sorption Capacity, Mechanisms, and Selectivity – A Review
- Delhia Alby[1], Clarence Charnay[1], Marc Heran[2], Bénédicte Prelot[1], Jerzy Zajac[1]
- [1]*Institut Charles Gerhardt, UMR-5253 CNRS-UM-ENSCM,*
- [2]*Institut Européen des Membranes, UMR5635 CNRS-UM-ENSCM,*
- *Université de Montpellier, Place E. Bataillon, F-34095 Montpellier cedex 5, France*
- Highlights
- Recent trends in the sorbent preparation for removal of Cs and Sr from wastewater
- Nanostructured inorganic ion exchangers with improved retention performance
- Preparation and shaping procedures, sorption capacity, mechanisms, and selectivity

ABSTRACT

Liquid wastes containing non-ferrous heavy metal ions and some radionuclides, ^{137}Cs and ^{90}Sr in particular, represent one of the most dangerous sources of environmental contamination. The