

SUPPORTING INFORMATION for Filtration and Catalytic Reaction Studies in Trickle Bed Reactors – Use of Solid Foam Guard Beds to Mitigate Fines Plugging

A. R. Khan Wardag,¹ M. Hamidipour,¹ M. Schubert,² D. Edouard,³ F. Larachi*¹

¹Department of Chemical Engineering, Laval University, Québec (QC), G1V 0A6, Canada;

²Helmholtz-Zentrum Dresden-Rossendorf, Institute of Safety Research, P.O. Box 510119, 01314 Dresden, Germany; ³LMSPC (UMR 7515 du CNRS), ECPM, Université Louis Pasteur, 25, rue Becquerel, 678087 Strasbourg Cedex 02, France

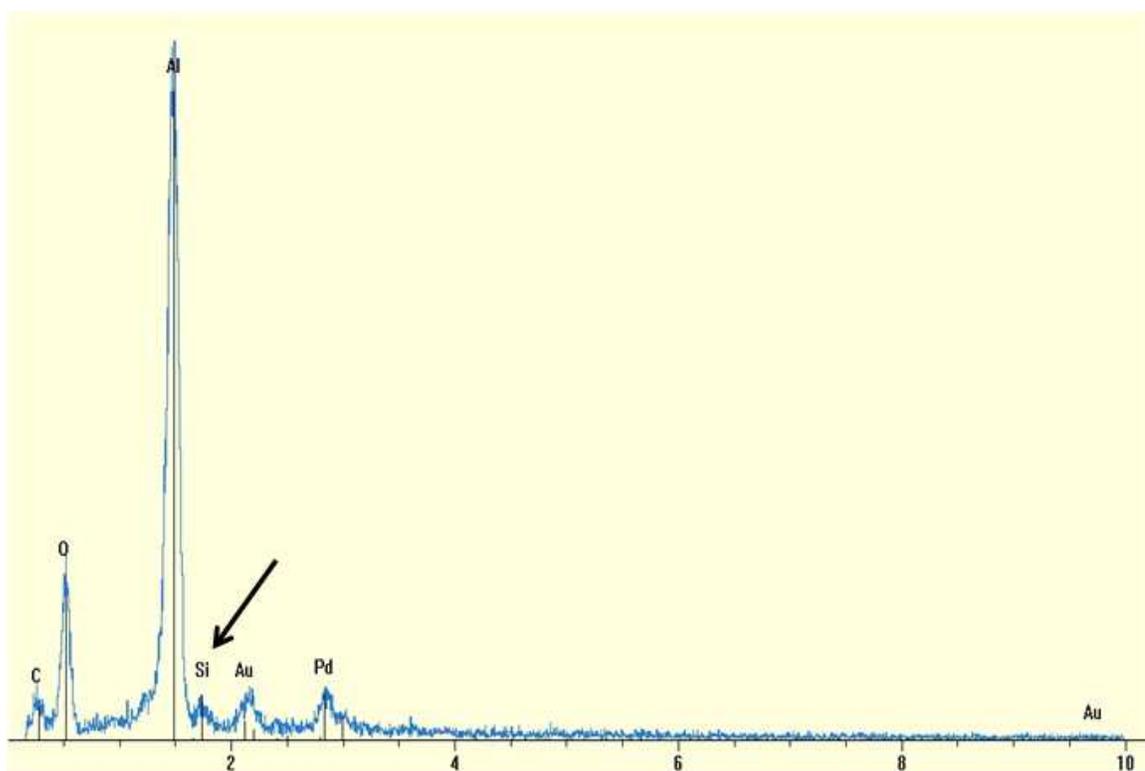


Figure SI-1 EDS analysis of catalyst after filtration experiments, shows presence of silica particles inside porous catalyst.

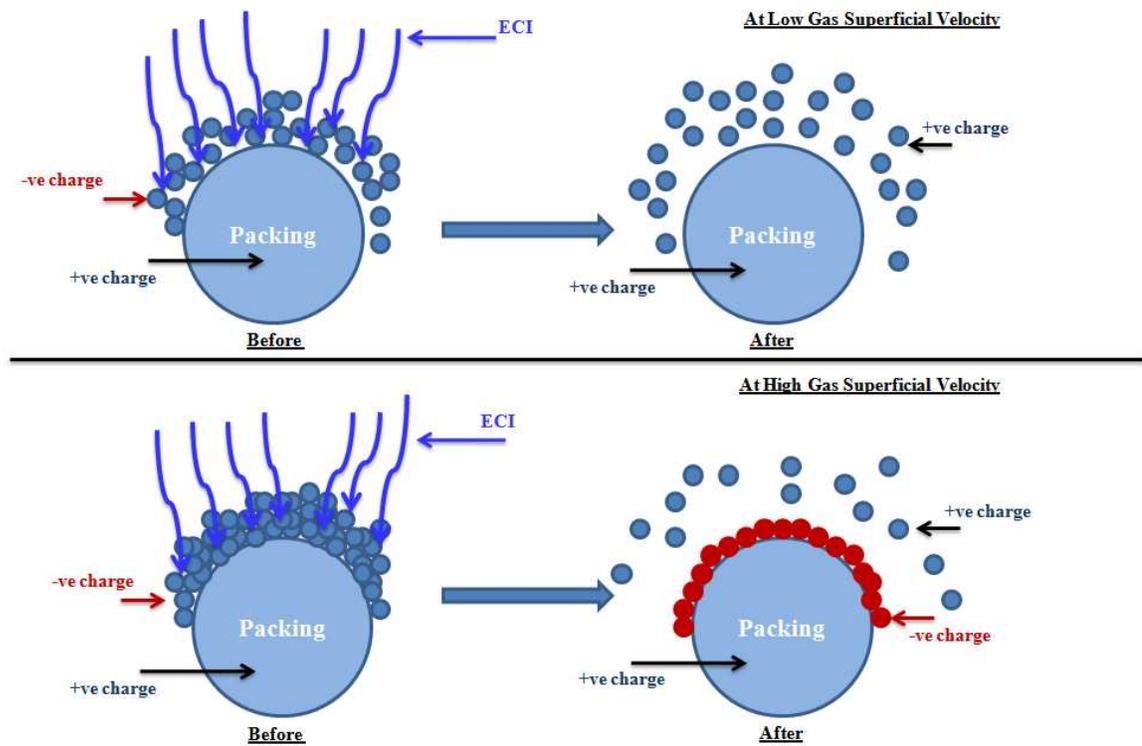


Figure SI-2. Before and after introduction of ECI during filtration at low and high superficial velocities, ECI impulsion access the entire layers prompting surface charge changes everywhere as alumina bed charges remain unaltered, repulsive forces between surfaces charged alike will prompt detachment which is more significant during filtration at low gas superficial velocity than high gas superficial velocity.