

1 Abstract

FEBID (focused electron beam induced deposition) precursors are a subject of active research both in experimental and computer simulation manners. Their potential use in FEBID is strongly dependent on the completeness of the dissociation process caused by both primary and secondary electrons of the electron beam. This work focuses on exploration of dissociation process of iron pentacarbonyl cation by secondary electrons in i) vacuum ii) argon cluster environment and on possibility of utilizing argon cluster with an embedded gold particle as a non-covalently bonded precursor for FEBID. These systems will be inspected via means of the classical and reactive molecular dynamics using the rCHARMM force field.