Abstract:

In a dehydrogenation process a hydrocarbon stream comprising at least one non-aromatic six-membered ring compound and at least one five-membered ring compound is contacted with a dehydrogenation catalyst comprising: (i) a support; (ii) a first component comprising at least one metal component selected from Group 1 and Group 2 of the Periodic Table of Elements; and (iii) a second component comprising at least one metal component selected from Groups 6 to 10 of the Periodic Table of Elements, wherein the catalyst composition exhibits an oxygen chemisorption of greater than 50%. The contacting is conducted under conditions effective to convert at least a portion of the at least one non-aromatic six-membered ring compound in the hydrocarbon stream to benzene and to convert at least a portion of the at least one five-membered ring compound in the hydrocarbon stream to paraffins.