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REACTIONS OF HYDROCARBONS
ON RANEY NICKEL
IN THE PRESENCE OF
ADSORBED TRITIUM

A Thesis

Submitted to the University of Auckland
for the Degree of Doctor of Philosophy

by

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A B S T R A C T

The exchange of a number of hydrocarbons with tritium on a Raney nickel catalyst has been investigated for the purpose of developing a procedure for labelling such compounds with tritium. It has been possible to formulate sets of conditions which consistently yield labelled materials of high radio-chemical purity for the majority of hydrocarbons studied. Attempts to label hydrocarbons in chlorinated solvents were less successful, the technique being suitable for aromatic compounds only.

The reactions are discussed in terms of current theories of metal catalysis, the relevant aspects of which are reviewed in the introduction. Detailed mechanisms for some of the reactions which occur at very low conversions are proposed.

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