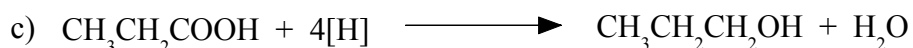


Chemguide – answers

CARBOXYLIC ACIDS: REDUCTION

1. a) Primary alcohols

b) Three of the hydrogens are attached by single covalent bonds involving sharing of the single electron on each hydrogen with one of the three outer electrons of the aluminium. That only leaves six electrons in the outer level of the aluminium. The gap is filled using the lone pair on a hydride ion, H^- , forming a coordinate (dative covalent) bond with the aluminium.



d) Lithium tetrahydridoaluminate reacts violently with water.

e) (i) dilute sulphuric acid

