

Thesis Title : THE CHEMICAL INVESTIGATION
OF
MANIHOT ESCULENTA CRANTZ

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Degree Master of Science (Organic Chemistry)

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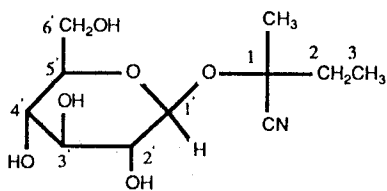
Date of Graduation 10 October B.E. 2532 (1989)

ABSTRACT

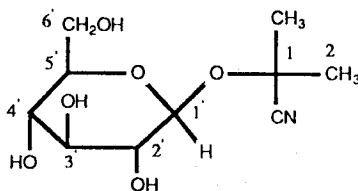
From the ethanol extract of fresh root cortex of cassava (*Manihot esculenta* Crantz ; Euphorbiaceae) , two cyanogenic glucosides were isolated i.e (R)-1-cyano-1-methylpropyl- β -D-glucopyranoside (Lotaustralin) **1** and 1-cyano-1-methylethyl- β -D-glucopyranoside (Linamarin) **2** together with one novel cyanogenic glycoside i.e 1-cyano-1-methylpropyl- β -D-apiofuranosyl(1 \rightarrow 6)- β -D-glucopyranoside **50**. Apart from the three non-cyanogenic glycoside, two novel non-cyanogenic glycosides and one simple non-cyanogenic glucoside were also isolated i.e (S)-1-methylpropyl- β -D-apiofuranosyl(1 \rightarrow 6)- β -D-glucopyranoside **49** 1-methylethyl- β -D-apiofuranosyl(1 \rightarrow 6)- β -D-glucopyranoside **51** and ethyl- β -D-glucopyranoside **48**.

However, from the methanol extract of fresh leaves of cassava, a mixture of cyanogenic glucoside **1** and **2** and two flavonoid glycosides, i.e kaempferol-3-O-rutinoside **53** and quercetin-3-O-rutinoside **54** were isolated.

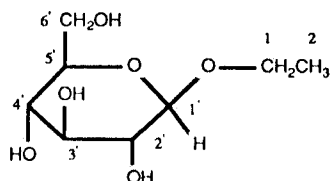
The structures of all compounds were elucidated by spectroscopic analysis together with chemical degradations.



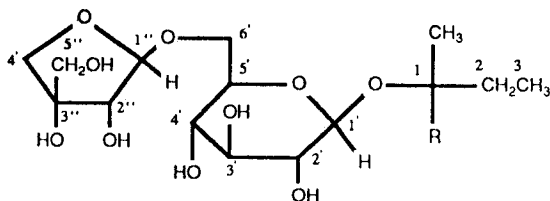
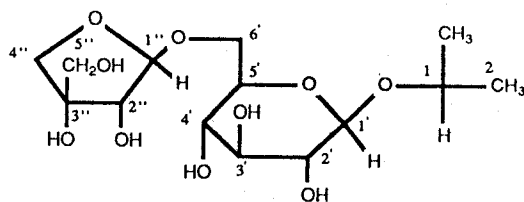
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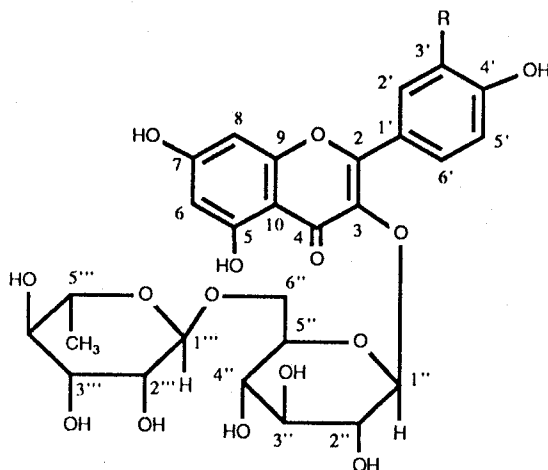
2



48

49 R = H
50 R = CN

51

53 R = H
54 R = OH