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Novel investigation on *in-vitro* anti-diabetic and volatile profile of bioactive compounds present in methanolic extract of *Ficuskrishnae*

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Abstract: *Ficuskrishnae* is one of the medically important plant belonging to the family *Moraceae*. It has been used extensively by ayurvedic practitioner in India to treat various ailments such as ulcers, vomiting, fever, inflammations, leprosy, syphilis, biliousness, dysentery and inflammation of liver. The present study aims that the *in vitro* anti-diabetic screening and bioactive components of *Ficuskrishnae* stem bark extract of the plant have been evaluated by using GC-MS. The *in vitro* alpha-amylase inhibitory study was performed using different concentration of extract and compared with a standard drug. The results reveal that, there was a dose dependent increase in percentage inhibitory activity against these intestinal enzymes by methanol extract. Our findings revealed that methanol extract and acarbose have showed an efficient anti-diabetic activity i.e. 85.48% and 75.06% respectively. The chemical compounds of the methanol extract of *Ficuskrishnae* were investigated using Perkin-Elmer Gas chromatography-Mass spectrometry. GC-MS analysis of methanol extract of *Ficuskrishnae* shows the existence of 42 compounds with valuable biological activities. This is the first report of identification of active constituents from the stem bark of *Ficuskrishnae*.

Keyword: GC-MS, *Ficuskrishnae*, soxhlet extract, anti-diabetic, alpha amylase.

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