



भारतीय रासायनिक प्रौद्योगिकी संस्थान  
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**Indian Institute of Chemical Technology**  
(Council of Scientific & Industrial Research)

तारनाका Tarnaka, हैदराबाद Hyderabad - 500 007. भारत India



**Dr. S. CHANDRASEKHAR**, FNASc, FASc  
Chief Scientist & Head  
Division of Natural Products Chemistry

डॉ. एस. चंद्रशेखर  
मुख्य वैज्ञानिक एवं अध्यक्ष  
प्राकृतिक उत्पाद रसायन प्रभाग

### CERTIFICATE

This is to certify that the work incorporated in this Ph.D. thesis entitled "Total synthesis of Achaetolide, Pectinolide-A and Pectinolide-H and asymmetric Michael reactions using carbohydrate-pyrrolidine based organocatalyst" is a bonafide research work, carried out by Mr.S.V.Balaji, Research scholar, registered with Acharya Nagarjuna University under my supervision.

Date: 26.04.2012

(Dr. S. CHANDRASEKHAR)