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Tea tree oil loaded PLA electrospun fibers as active packaging material

COST FP1405

ACTIVE AND INTELLIGENT FIBRE-BASED PACKAGING – INNOVATION AND MARKET INTRODUCTION

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PLA and Tea tree oil



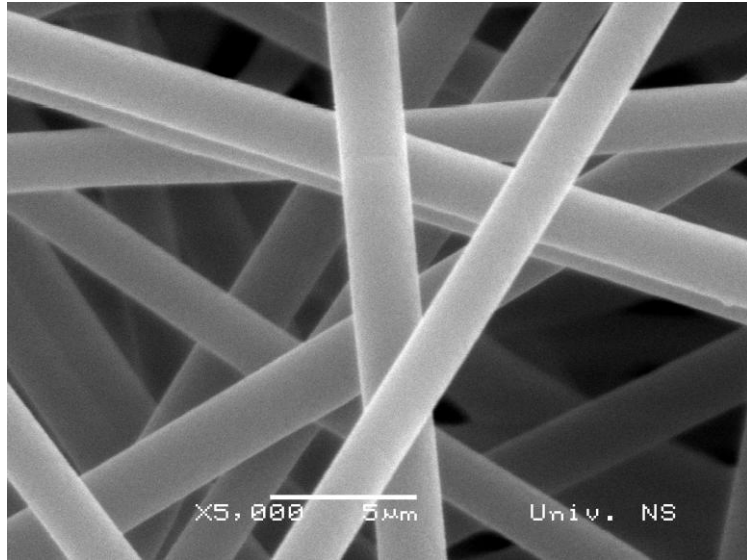
PLA

- Biobased, biodegradable, biocompatible
- Easy to process into fibers
- Suitable for packaging

Tea tree oil

- Terpene-based oil
- Well known antimicrobial activity
- Concentration in oral forms : 0,2%

Structure and activity

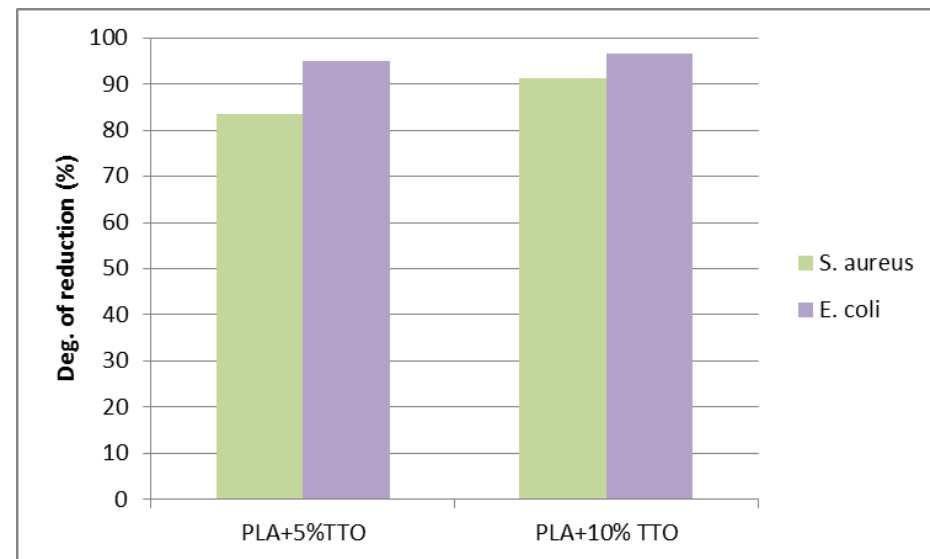


Tea tree oil loaded PLA fibers

- Regular fiber morphology
- Straight and bead-less fibers
- Tea tree oil has the plasticizing effect

Antimicrobial activity

Compared to pure PLA electrospun fibers, nonwovens with TTO added showed significant degree of reduction against *S. aureus* and *E. coli*.





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