Tecnologie per la manipolazione su scala micro e nanometrica dei materiali e loro applicazione biomedica

Workpackage 1
Tessuti vascolari e tessuti connettivi non mineralizzati

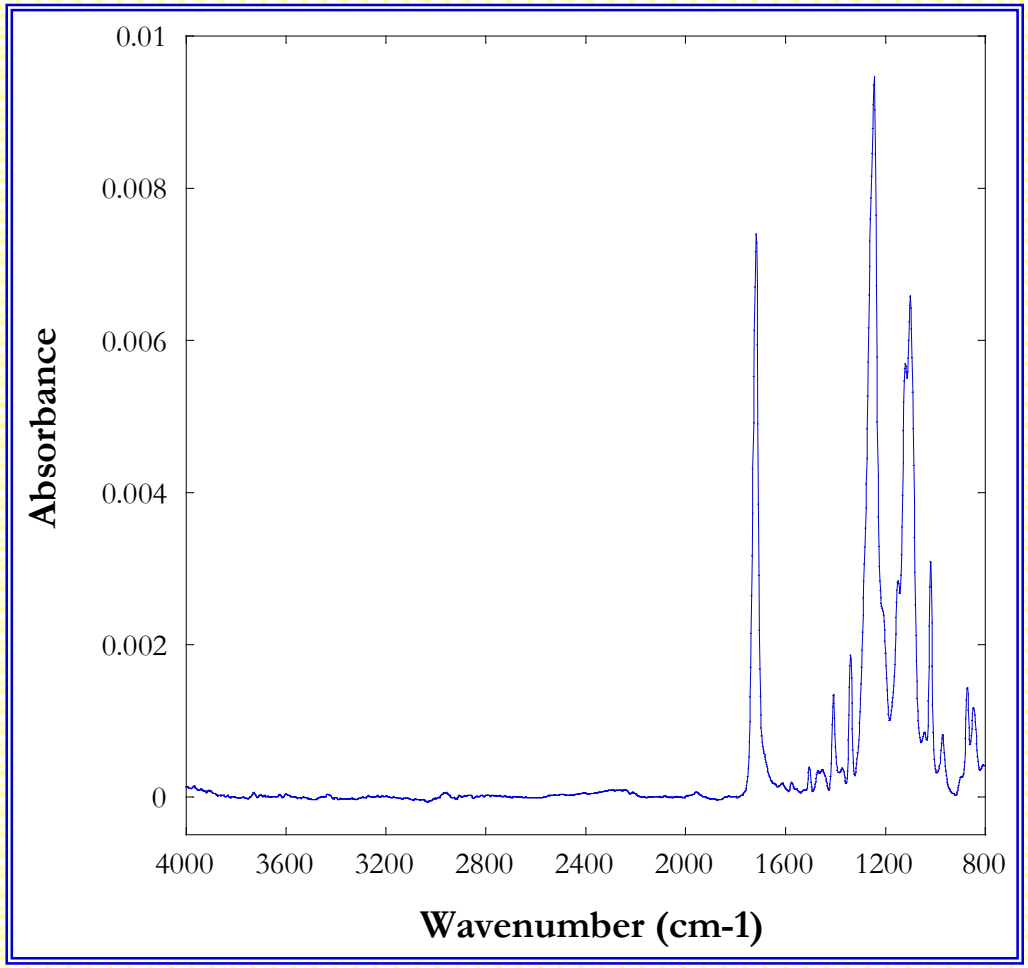
Unità di ricerca C.R.I.S.M.A.
Università di Siena

Firenze, 11 novembre 2003

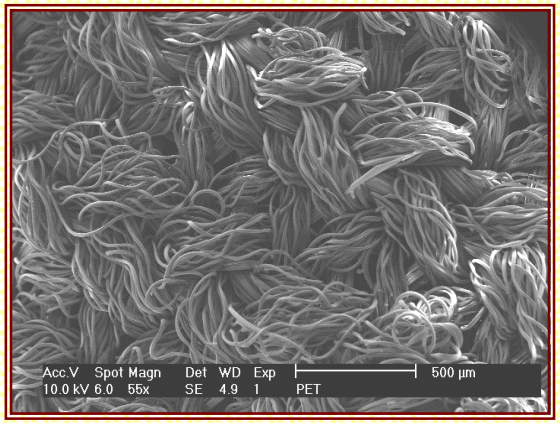
Obiettivi

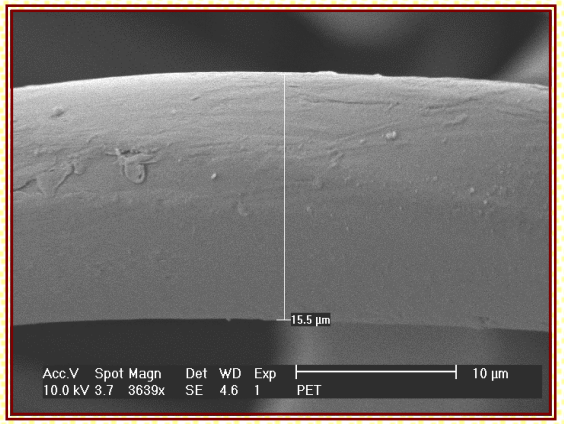
- Caratterizzare i "tessuti SORIN" mediante ATR FT-IR
- Caratterizzare film di HYAFF® mediante ATR FT-IR
- Ricoprire i "tessuti SORIN" con acido ialuronico (Hyal) e Hyal solfatato (HyalS)
- Realizzare microstrutture di Hyal e HyalS su substrati di PET mediante fotoimmobilizzazione
- Studiare la chimica e la morfologia delle microstrutture e dei ricoprimenti realizzati mediante tecniche spettroscopiche (ATR FT-IR) e microscopiche (Microscopia ottica, SEM, AFM)

PET “tessuto SORIN”



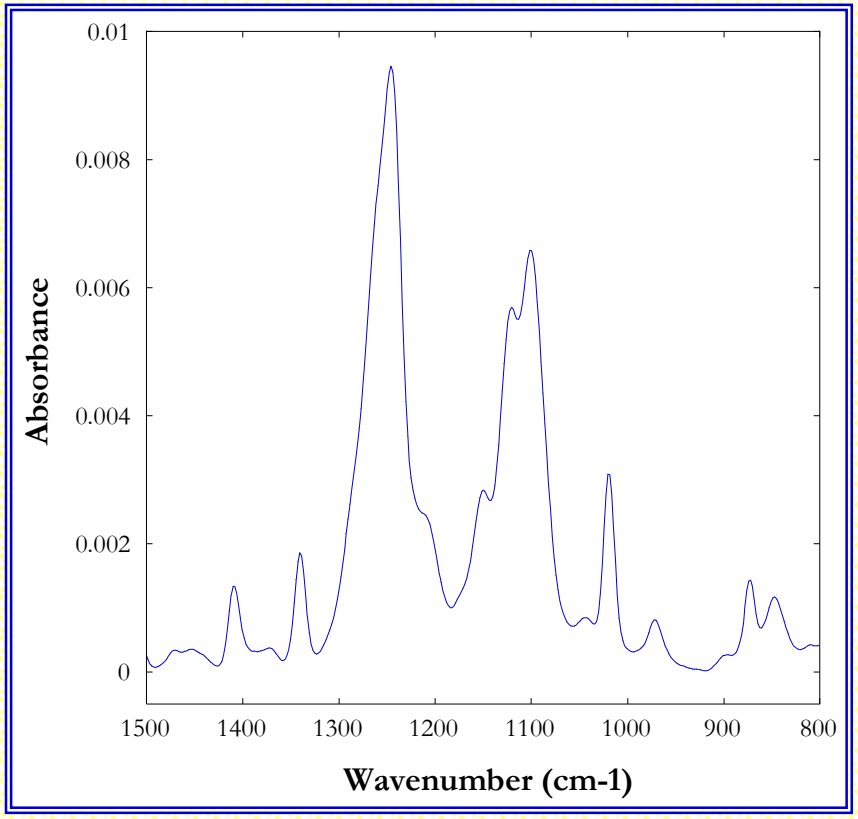
Spettro ATR FT-IR

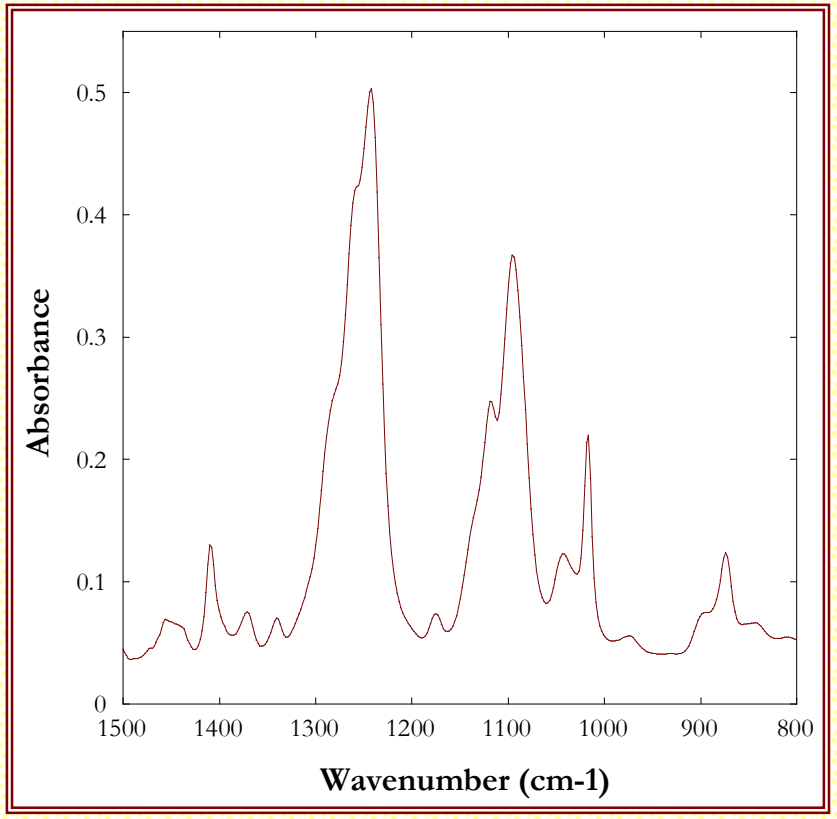




Micrografie SEM

PET – ATR FT-IR

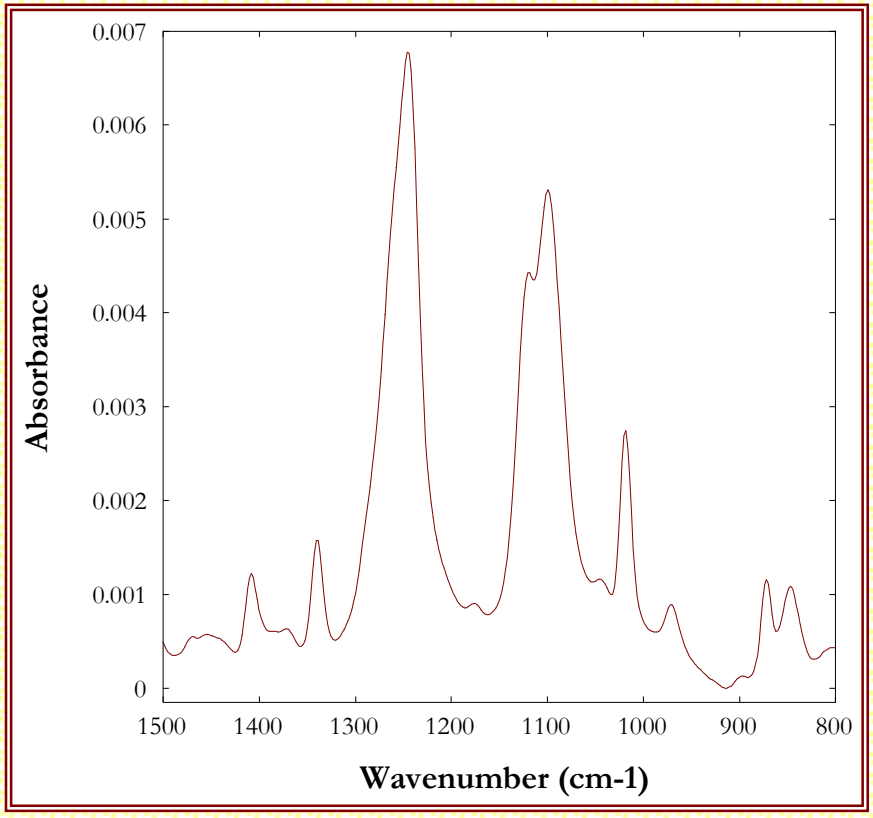


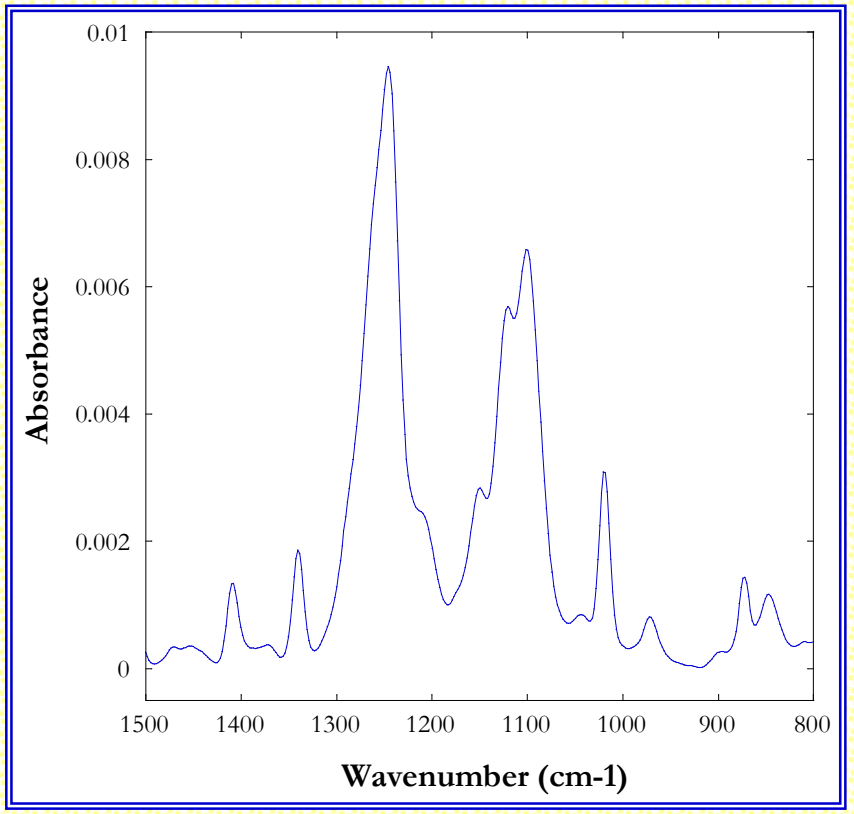


PET "tessuto SORIN"

PET film Goodfellow

Spettri ATR FT-IR

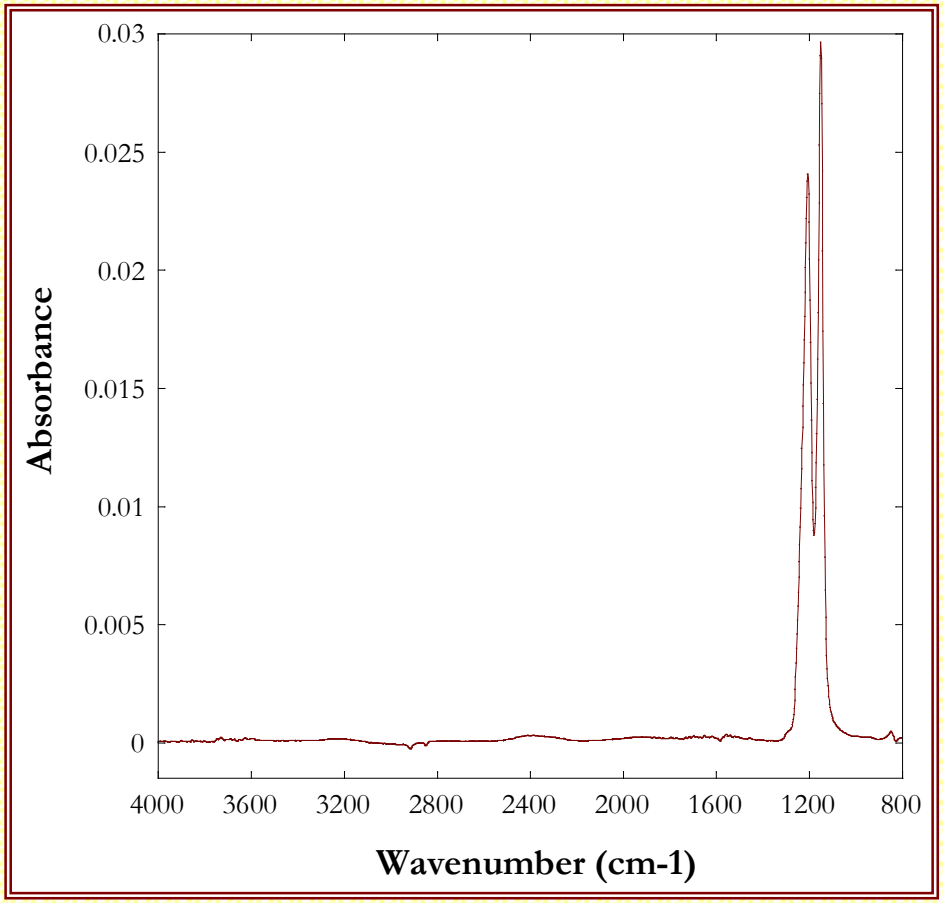




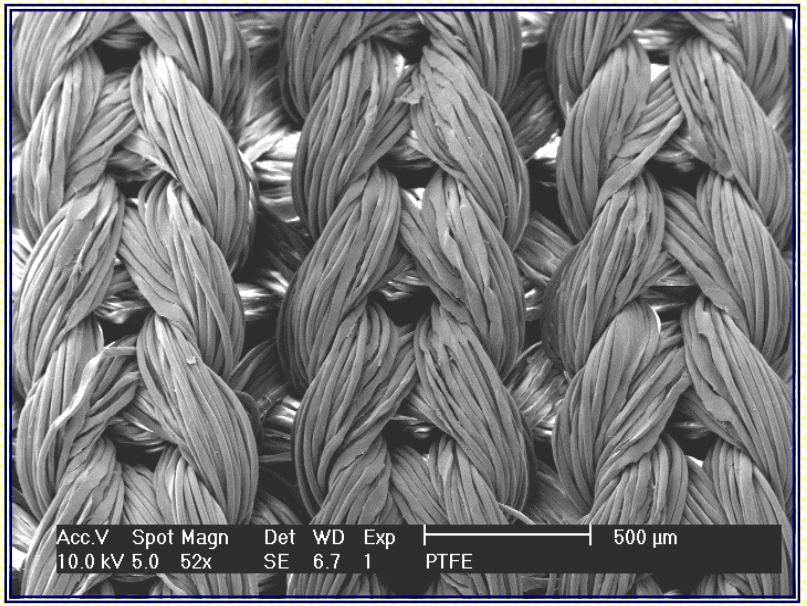
PET/C "tessuto SORIN"

PET "tessuto SORIN"

PTFE “tessuto SORIN”

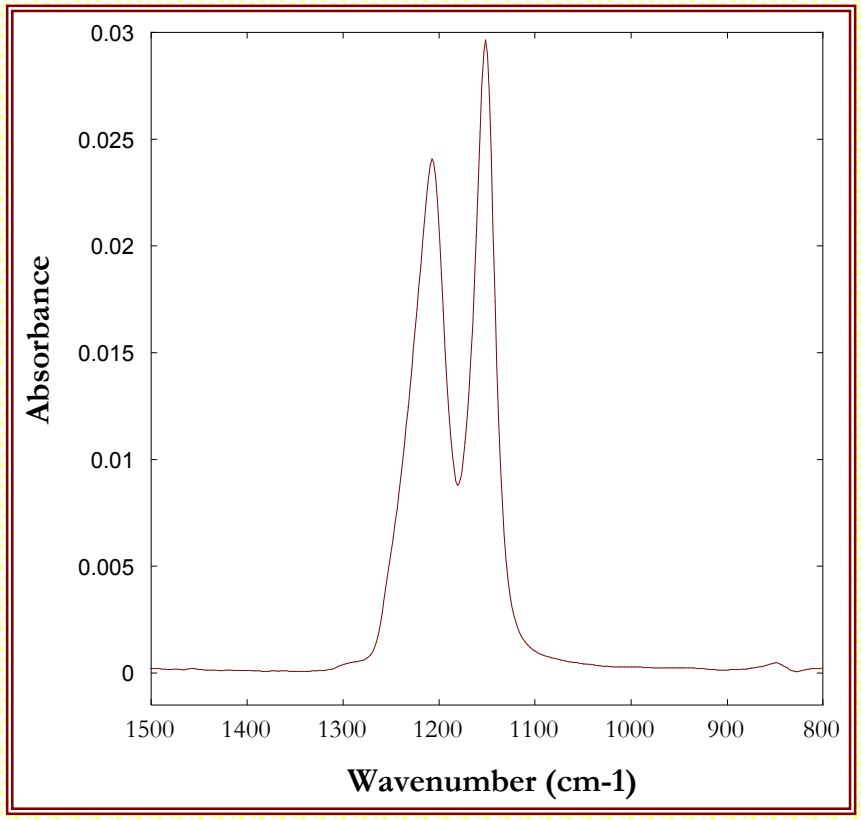


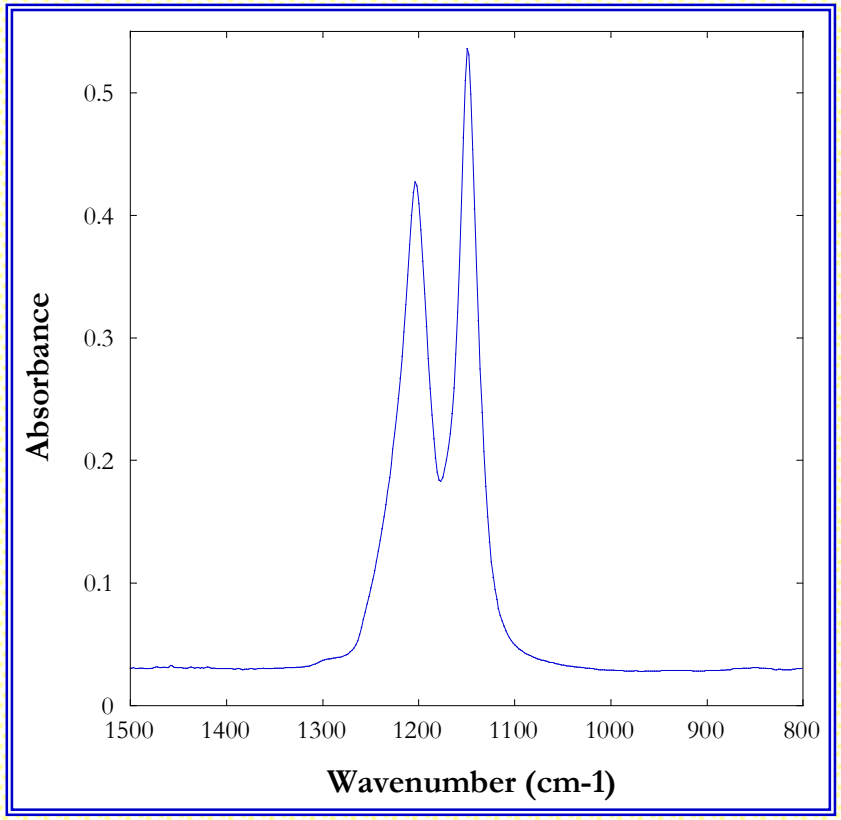
Spettro ATR FT-IR



Micrografia SEM

Spettri ATR FT-IR

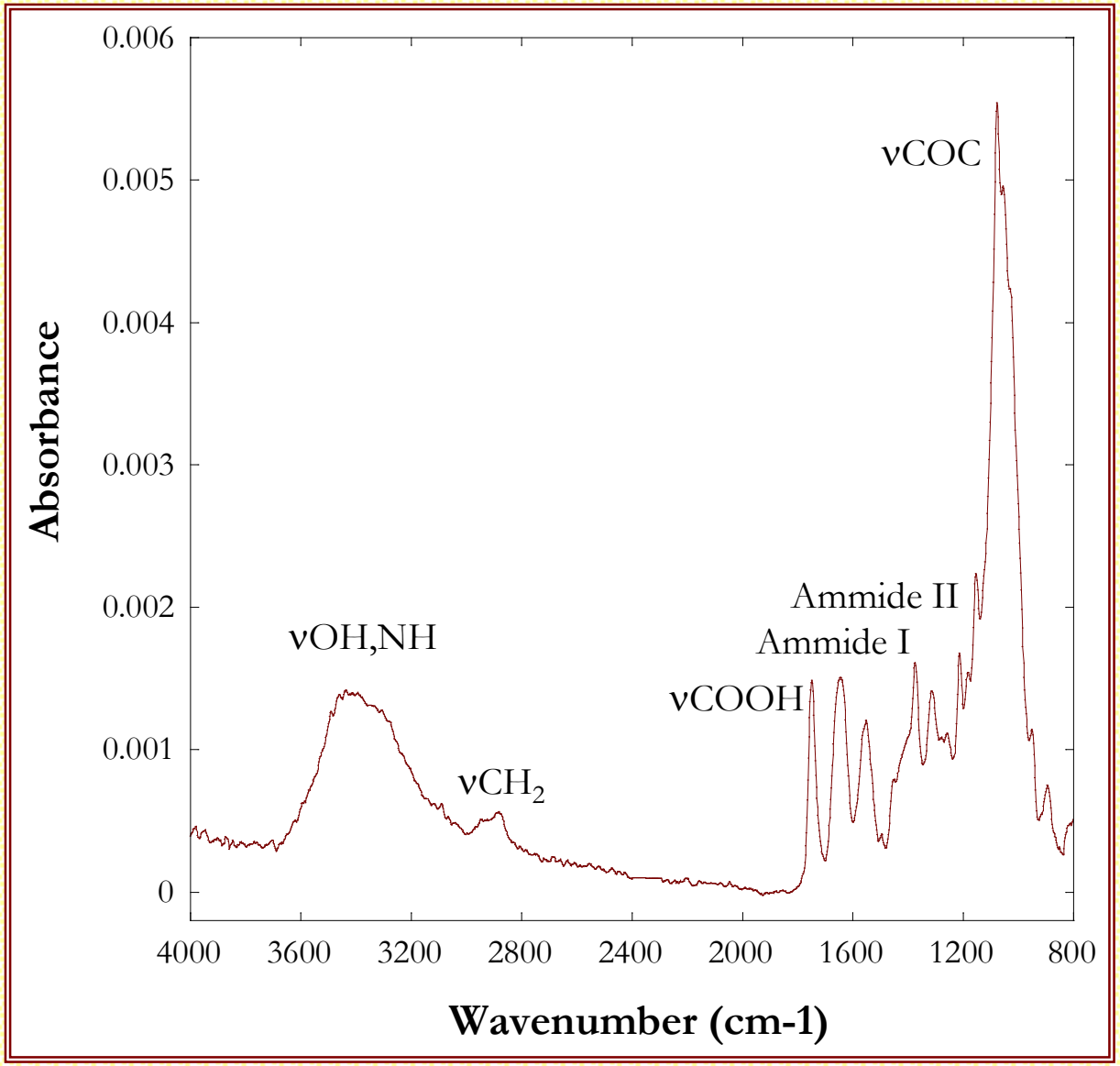




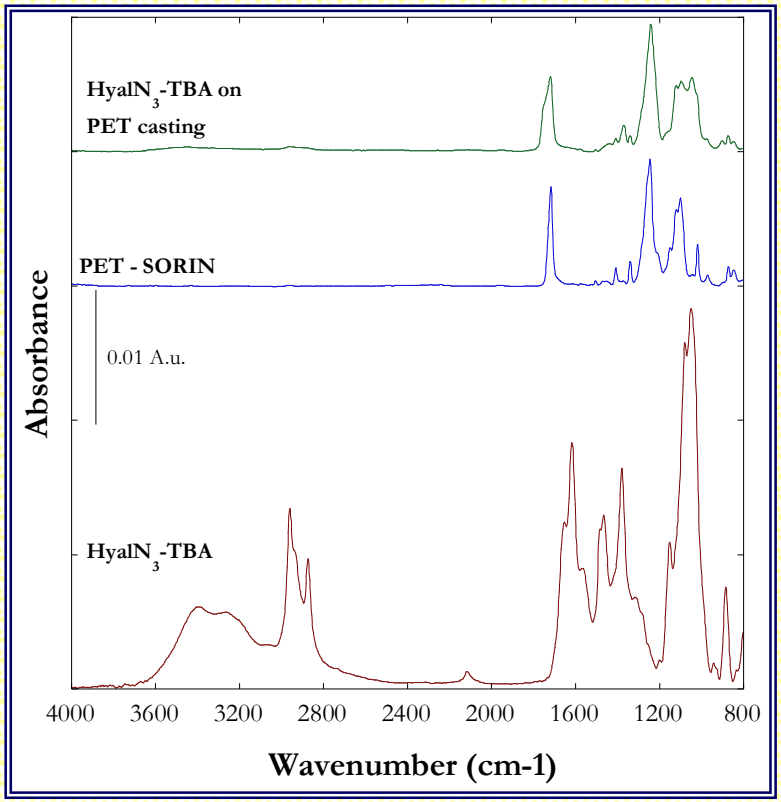
PTFE "tessuto SORIN"

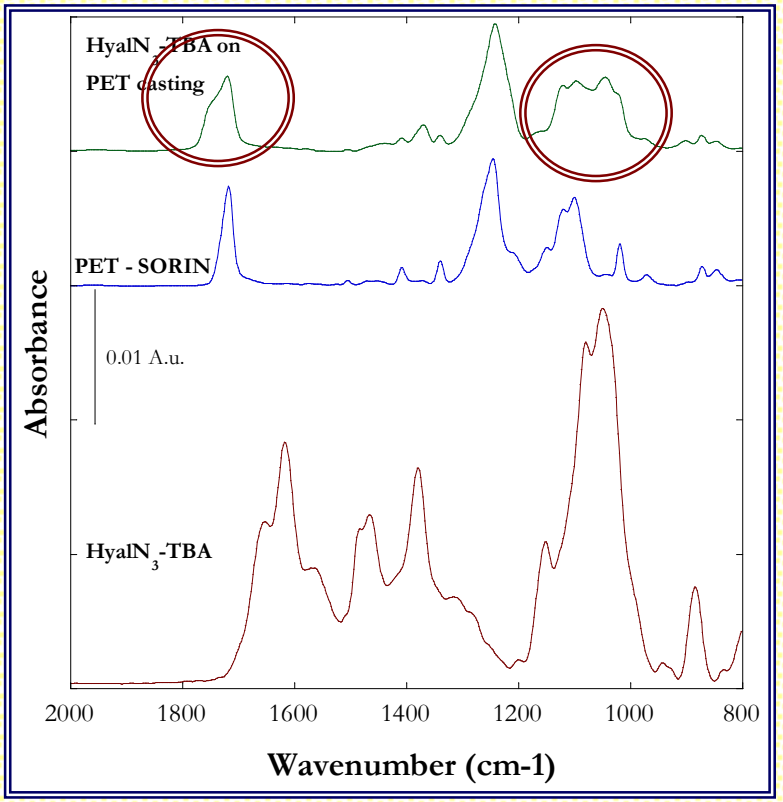
PTFE film Goodfellow

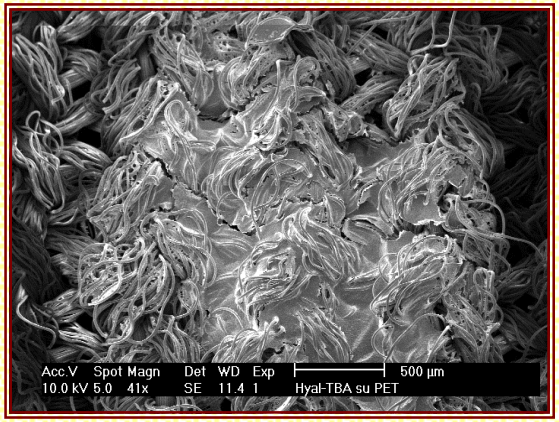
HYAFF® – ATR FT-IR

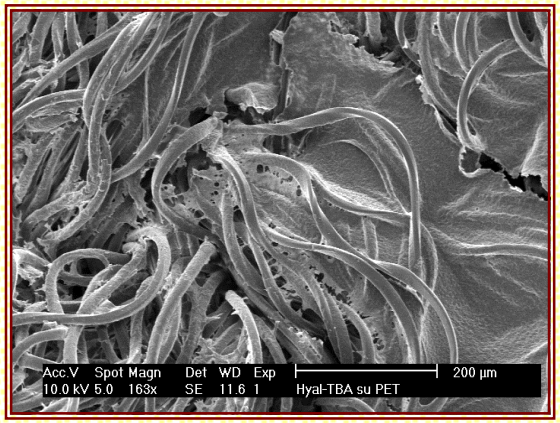


$HyalN_3$-TBA su PET “tessuto SORIN”

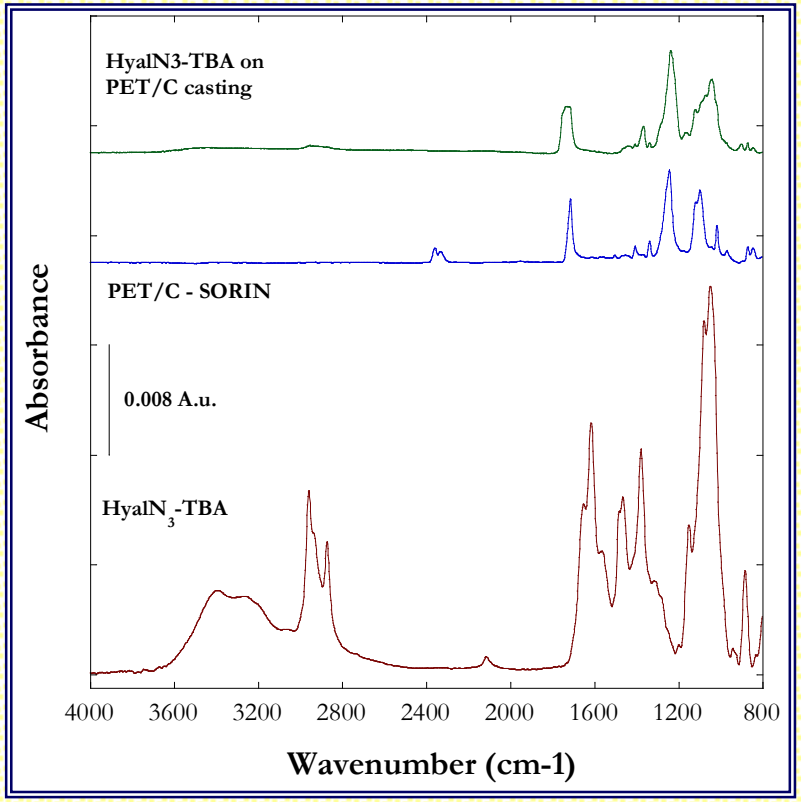


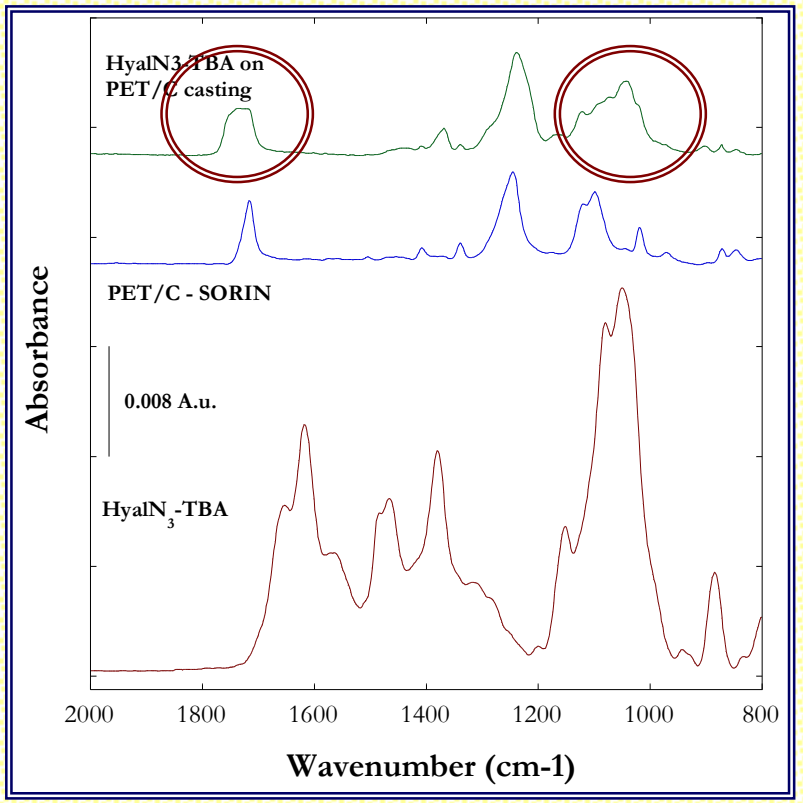


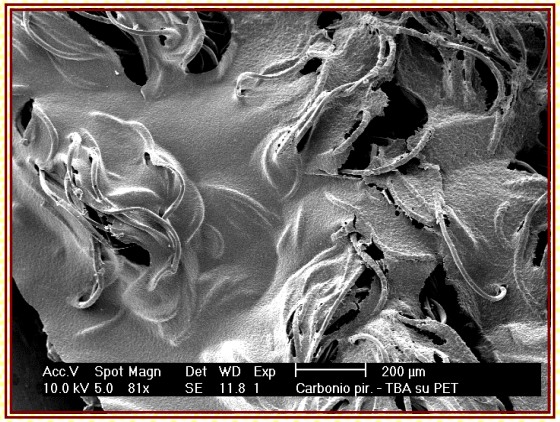


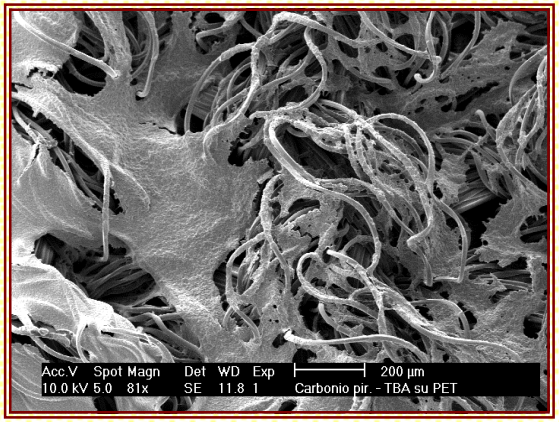


$HyalN_3$-TBA su PET/C "tessuto SORIN"

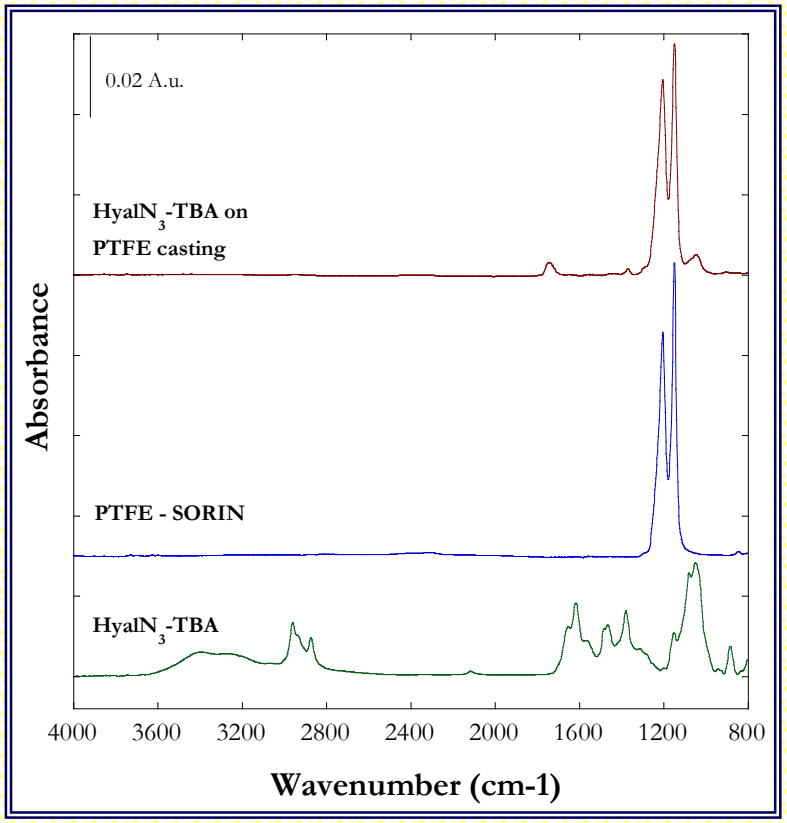


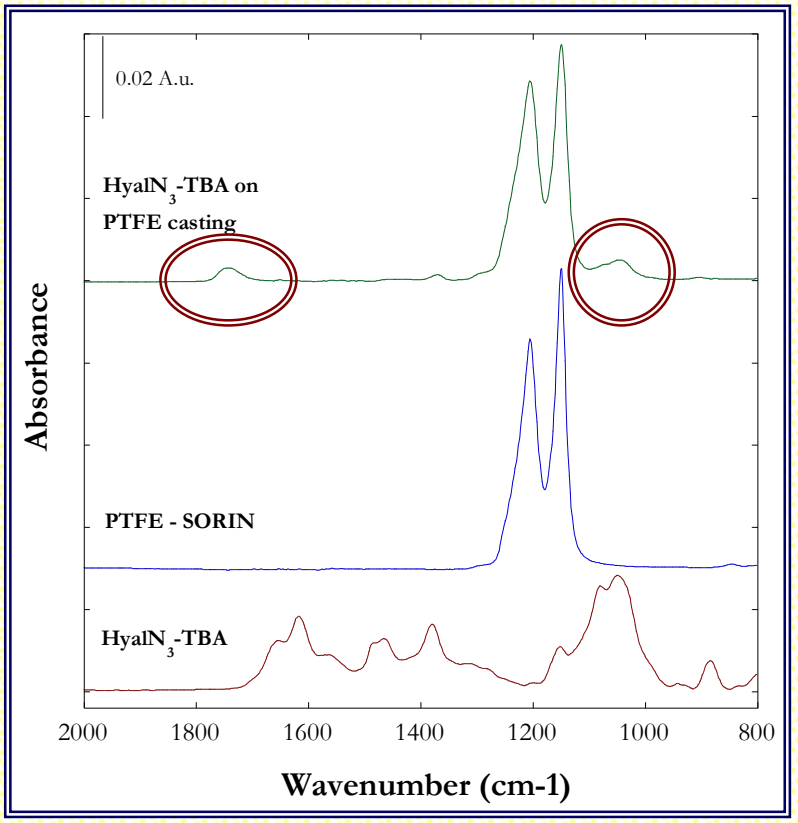


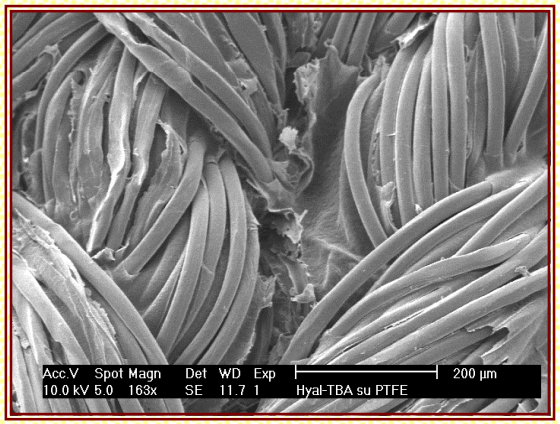


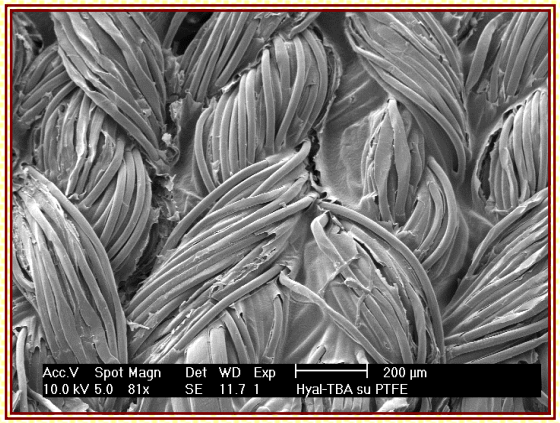


HyalN$_3$-TBA su PTFE “tessuto SORIN”



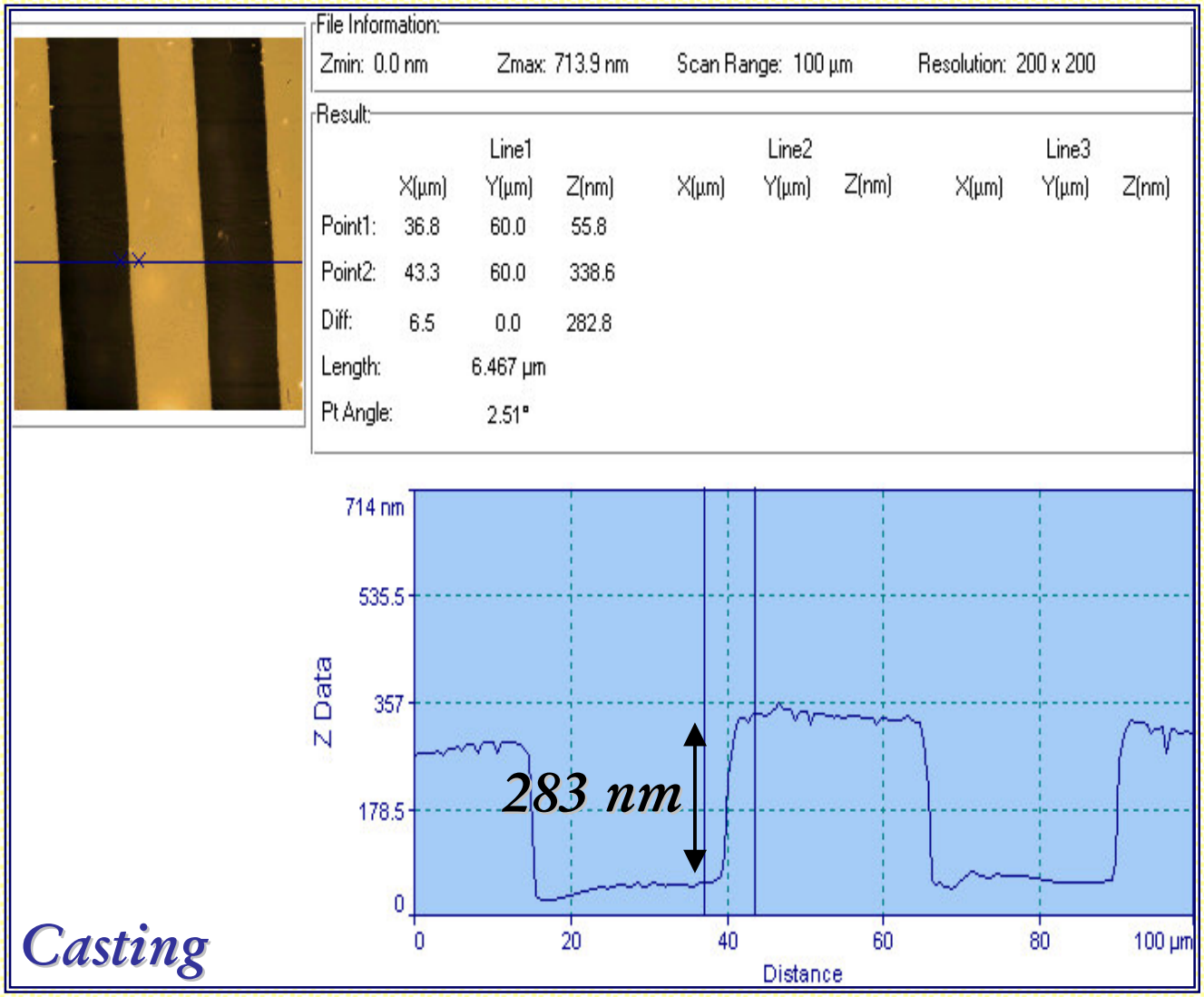






Microstrutture di Hyal su PET film

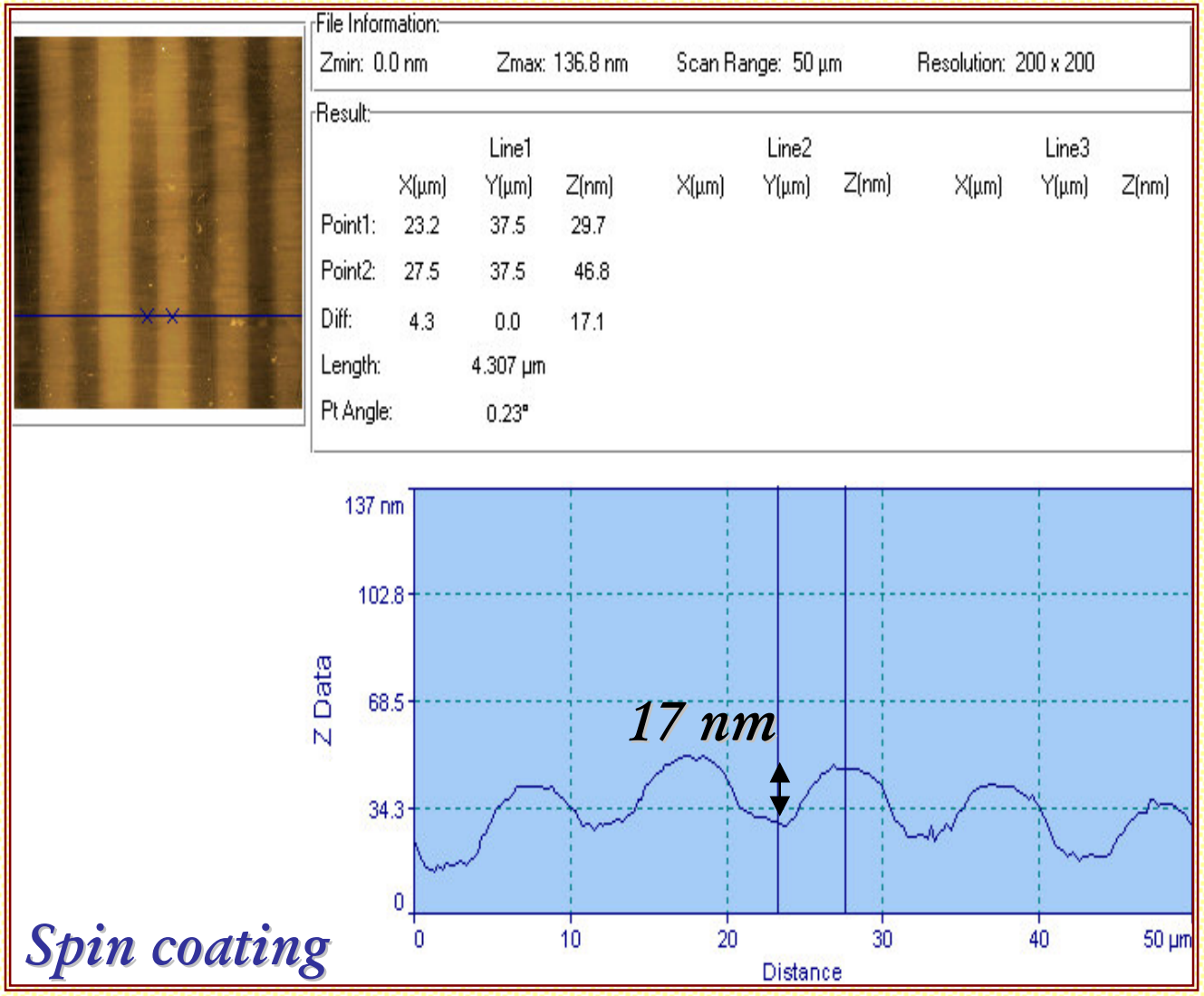
AFM



Casting

Microstrutture di Hyal su PET film

AFM



Spin coating