

Product name:

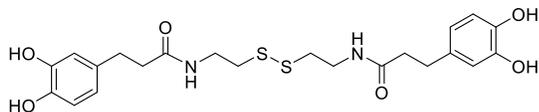
N,N'-Bis(3,4-dihydroxyphenyl propanoyl)-cystamine

IUPAC name:

N,N'-(Disulfanediyl bis[ethane-2,1-diyl])-bis(3-[3,4-dihydroxy phenyl]-propanamide)

Product batch # **P60179-BDHPPCys**

Structure:



Chemical Formula: C₂₂H₂₈N₂O₆S₂
Molecular Weight: 480.6

M _n × 10 ³ (g/mol):	0.48
M _w /M _n :	1.0
Chemical purity:	>98%
Traces amount of ethanol (solvent used for crystallization):	<1%

Synthesis:

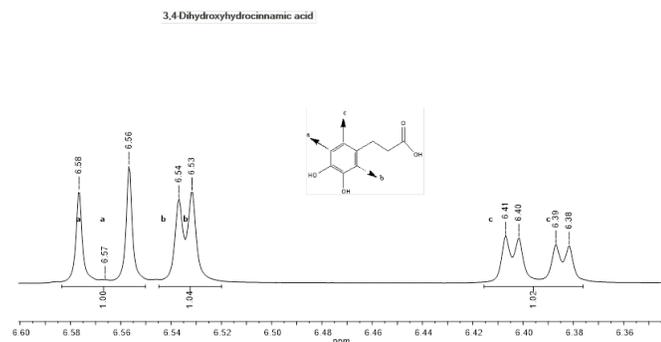
N,N'-Bis(3-[3,4-dihydroxyphenyl]propanoyl)-cystamine was synthesized by coupling reaction of cystamine dihydrochloride and 3,4-dihydroxyhydrocinnamic acid.

Characterization:

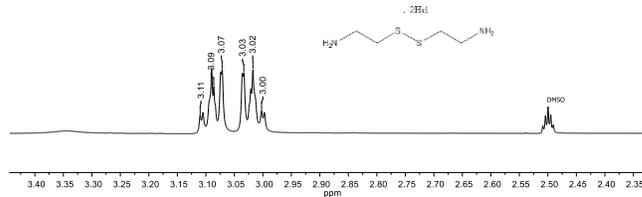
The chemical structure and purity of the product were analyzed by proton NMR spectroscopy.

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter and TGA550 thermogravimetric analyzer under the nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured by DSC at a scan rate of 10°C/min shortly after creating thermal history of the sample. The thermal stability of the sample was studied by TGA at a scan rate of 5°C/min under N₂.

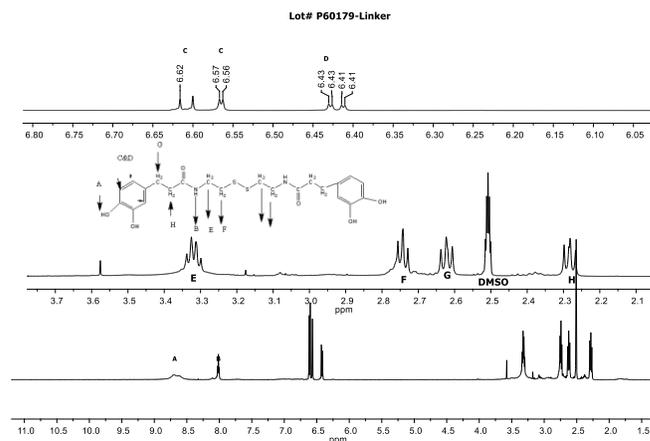
¹H NMR of 3,4-dihydroxyhydrocinnamic acid:



¹H NMR of cystamine dihydrochloride in DMSO-d₆:



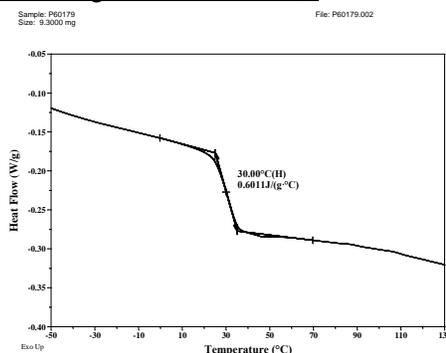
¹H NMR of the final product in DMSO-d₆:



Thermal analysis of batch # P60179:

Glass transition temperature:	T _g = 30°C
Degradation temperature, onset:	T _{on} = 90°C
Degradation temp., 5 wt% loss:	T _{5%} = 113°C
Degradation temp., 50 wt% loss:	T _{50%} = 300°C

DSC (2nd heating scan, 10 °C/min):



TGA (5 °C/min under N₂):

