File: C:\Users\Lenovo\OneDrive - Universidade de Lisboa\NUCRIA\TESE\Activations\116Sn(p,g)117Sb_Analysis\CNA\Activations\Ebeam=3.2MeV\1_Irradiation\Analysis-RBS_Ebeam3200keV_2407084.xnra
Experimental data: Ebeam = 3.2 MeV 2407084.SI2.dat

Incident particle: 1H

Experimental Setup
Energy of incident ion (keV): 3200.00
Geometry: Alpha (deg): 0.00 Beta (deg): 15.00 Theta (deg): 165.00
Detector: Solid state
Default energy calibration:
Offset (keV): 168.952 Energy per channel (keV/ch): 6.748 Quadratic term: (keV/ch^2) 0.00000000000000E+0000
Individual energy calibration(s): None
Detector sensitivity: Unity
Energy spread of incident beam (FWHM, keV): 0.000
Particles*sr: 1.43810496416796E+0013
Detector resolution (FWHM, keV): 25.000
Live time correction: No
Pile-up calculation: No

Calculation
Accuracy: High
Isotopes: Yes
Screening of Rutherford cross sections: Andersen
Electronic stopping: Ziegler-Biersack
Nuclear stopping: Universal
Accuracy of energy loss calculation: 6.74762082307190E-0003 keV
Electronic energy-loss straggling model: Yang
Shape of straggling distributions: asymmetric Gaussian
Include straggling in cross-section calculation: Yes
Stepwidth incident ions: Auto
Stepwidth outgoing ions: Auto
Cutoff energy (keV): 10.000
Thickness variations: 10
Angular variations: 20
Dimensionality of substrate roughness: 2.5
Straggling: Yes
Geometrical straggling: No
Dual scattering: No
Multiple scattering: No
Pile-up model: Accurate
Number of iterations: 3
Target
Layer 1
Layer thickness (1E15 at/cm2): 90.17
C 0.5215
11C 0.0000 12C 0.9890 13C 0.0110 14C 0.0000
O 0.4785
16O 0.9976 17O 0.0004 18O 0.0020
Stopping power correction factors: None
Porosity volume fraction (%): 0.0000
Porosity shape: Spherical
Porosity diameter: 0.0000
Porosity overlap: Overlap
Layer 2
Layer thickness (1E15 at/cm2): 5109.38
Sn 1.0000
112Sn 0.0097 114Sn 0.0065 115Sn 0.0034 116Sn 0.1453 117Sn 0.0768 118Sn 0.2423 119Sn 0.0859 120Sn 0.3259 122Sn 0.0463 124Sn 0.0579
Stopping power correction factors: None
Porosity volume fraction (%): 0.0000
Porosity shape: Spherical
Porosity diameter: 0.0000
Porosity overlap: Overlap
Layer 3
Layer thickness (1E15 at/cm2): 20.00
Al 1.0000
26Al 0.0000 27Al 1.0000
Stopping power correction factors: None
Porosity volume fraction (%): 0.0000
Porosity shape: Spherical
Porosity diameter: 0.0000
Porosity overlap: Overlap
Layer 4
Layer thickness (1E15 at/cm2): 150.03
C 0.4629
11C 0.0000 12C 0.9890 13C 0.0110 14C 0.0000
O 0.5371
16O 0.9976 17O 0.0004 18O 0.0020
Stopping power correction factors: None
Porosity volume fraction (%): 0.0000
Porosity shape: Spherical
Porosity diameter: 0.0000
Porosity overlap: Overlap

Foil
None

Window
None

Reactions in the spectrum
RBS 11C(1H,1H)11C Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
RBS 12C(1H,1H)12C Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
RBS 13C(1H,1H)13C Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
RBS 14C(1H,1H)14C Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
RBS 16O(1H,1H)16O Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
RBS 17O(1H,1H)17O Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
RBS 18O(1H,1H)18O Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
RBS 116Sn(1H,1H)116Sn Rutherford cross section
File: Internal
From Emin (keV): 0.00 To Emax (keV): 1000000.00
27Al(p,p0)27Al Theta: 165.00
File: IBANDL 2014\al7p\al7pp0k.r33 Source: Z.Siketic et al. Nucl.Instm.&Meth. 261 (2007) 414
From Emin (keV): 2430.00 To Emax (keV): 5067.00