900V 1m.

Cs-137 gain: 8, channel 864 peak = 662 keV
fine gain: 1x

^{22}Na gain 8×1 channel: 674, 1502, 1795 energy: 511 keV, 1275 keV

^{54}Mn 8×1, channel: 1083 energy: 835 keV

^{60}Co 1430, 1541 energy: 1173 keV, 1333 keV

^{133}Ba 8×1 113, 159, 219, 404, 475

Calibration
^{137}Cs 285

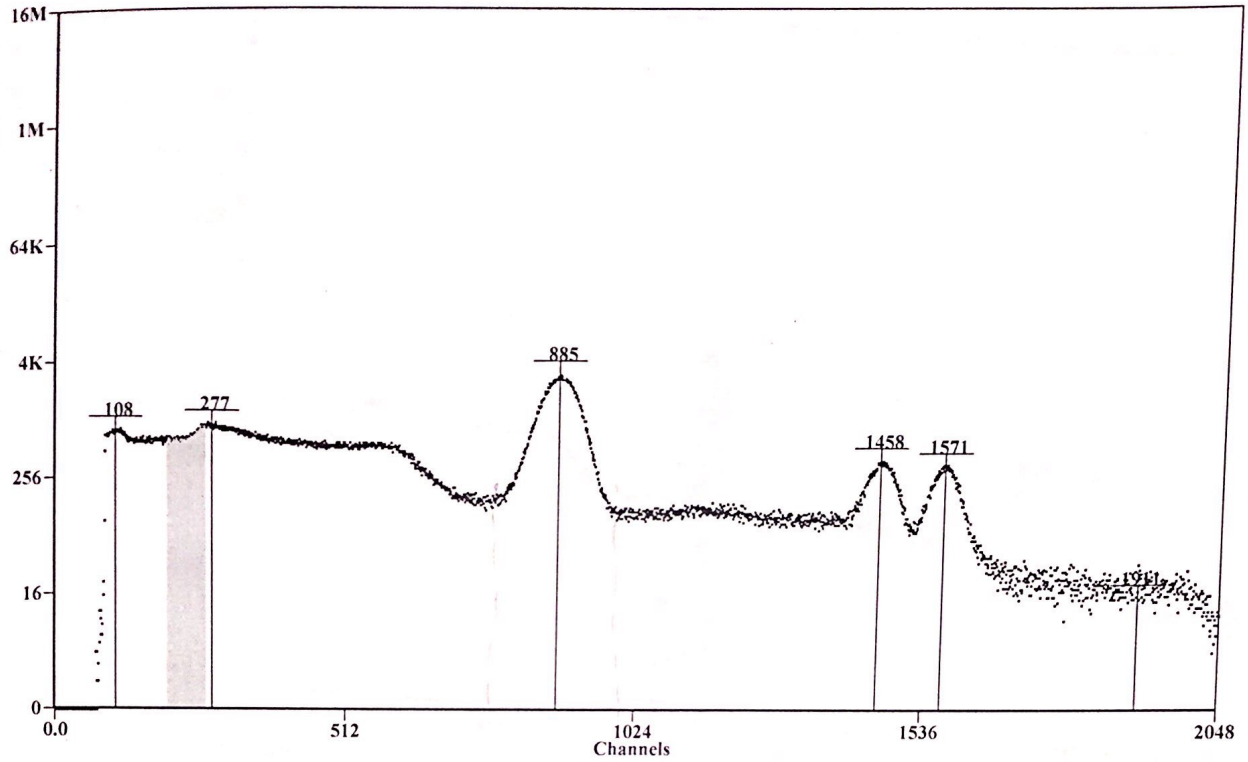
^{60}Co 1458 1571

with rod	without rod
180°	
150°	
120°	
90°	
60°	
170°	
140°	
110°	
80°	

	with rod	without rod
× 180°	839/1590	847/1614
150°	735	797
× 120°	526	
× 90°	378	
× 60°	295	
× 165°		
135°		
105°		
75°		

120

Calibration Before



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 02:10:34
End Time: September 12, 2019, 02:13:12

SET UP

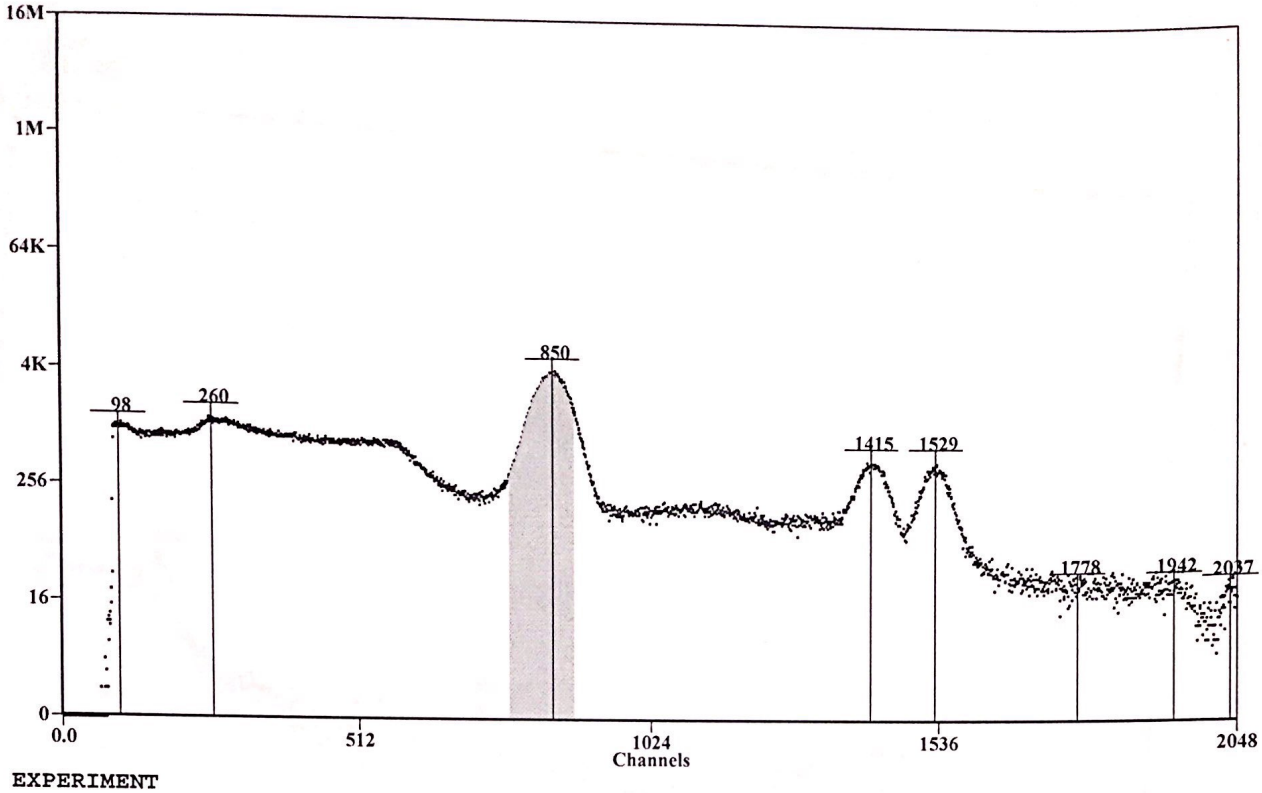
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 97.91 Real Time: 109.05

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 10.21

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	48799	-4794	233	2

Calibation After



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 04:41:40
End Time: September 12, 2019, 04:43:49

SET UP

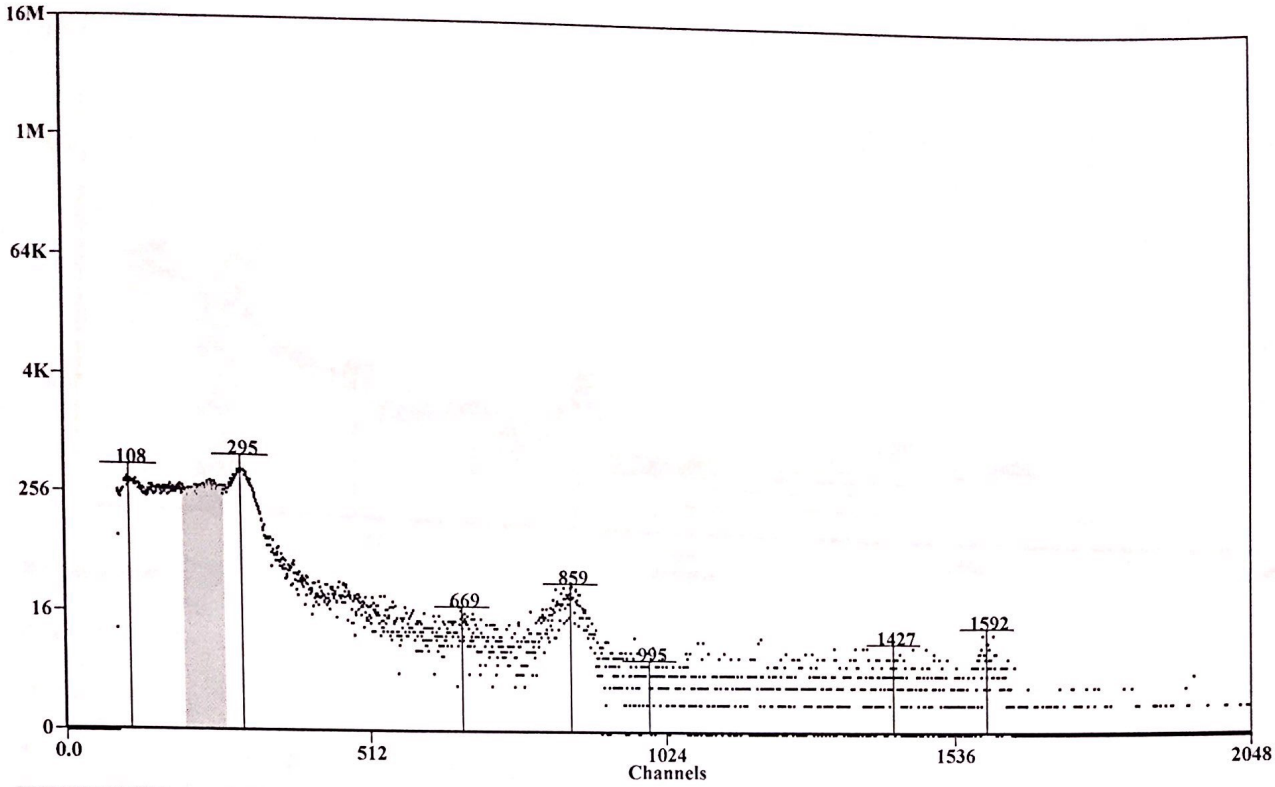
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 116.48 Real Time: 129.51

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 10.06

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
775	886	277829	157484	842	50

60° W



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 03:40:40
End Time: September 12, 2019, 03:49:50

SET UP

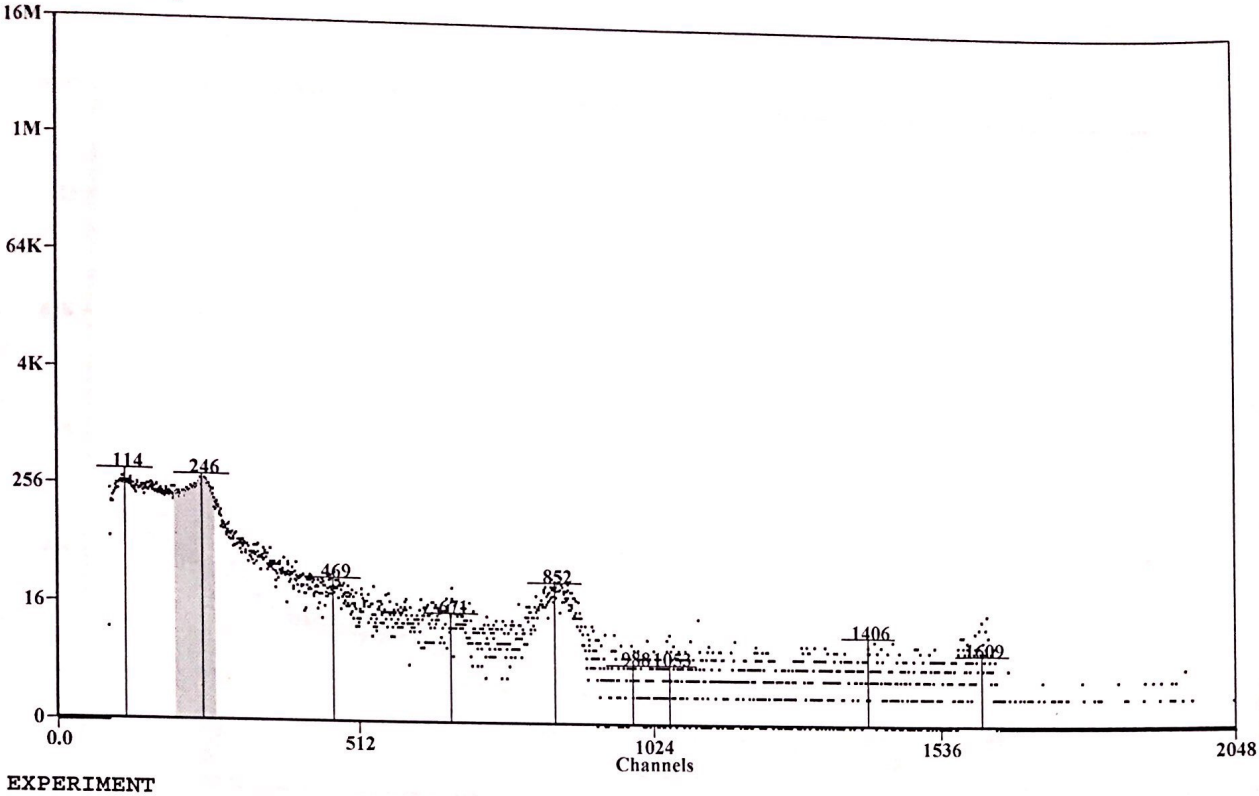
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 550.33 Real Time: 550.61

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.05

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	19602	1616	232	12

60° WO



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 03:50:56
End Time: September 12, 2019, 04:00:29

SET UP

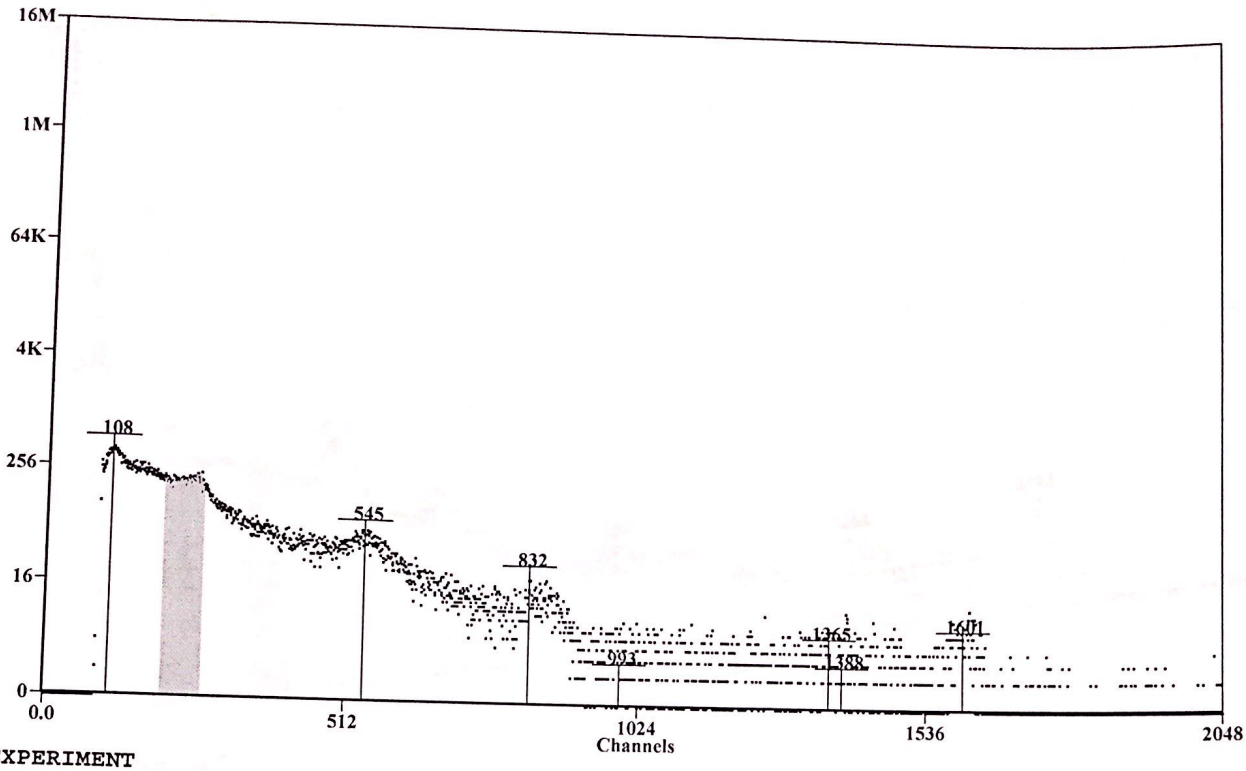
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 572.66 Real Time: 573.56

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.15

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	15819	2884	232	12

90° WO



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 03:28:25
End Time: September 12, 2019, 03:38:48

SET UP

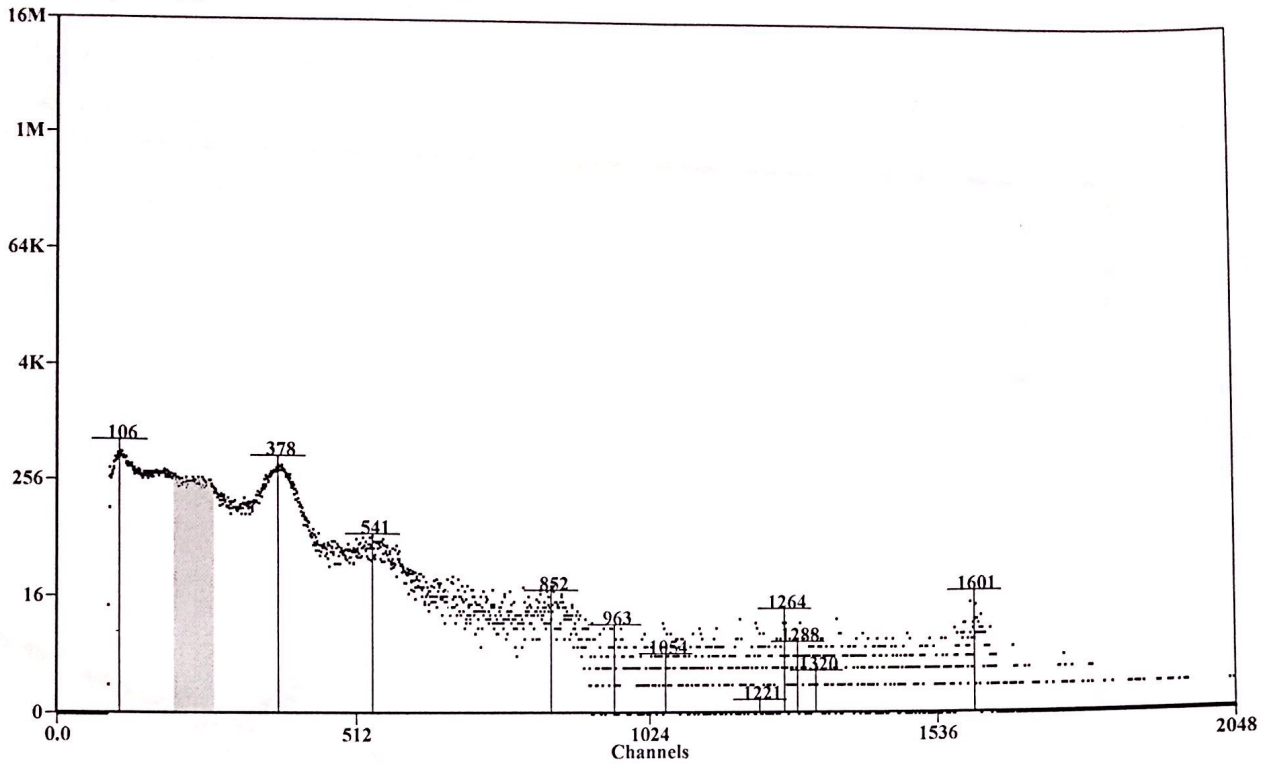
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 622.58 Real Time: 624.0

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.22

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	12685	837	231	7

90° W



EXPERIMENT
Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 03:16:24
End Time: September 12, 2019, 03:26:46

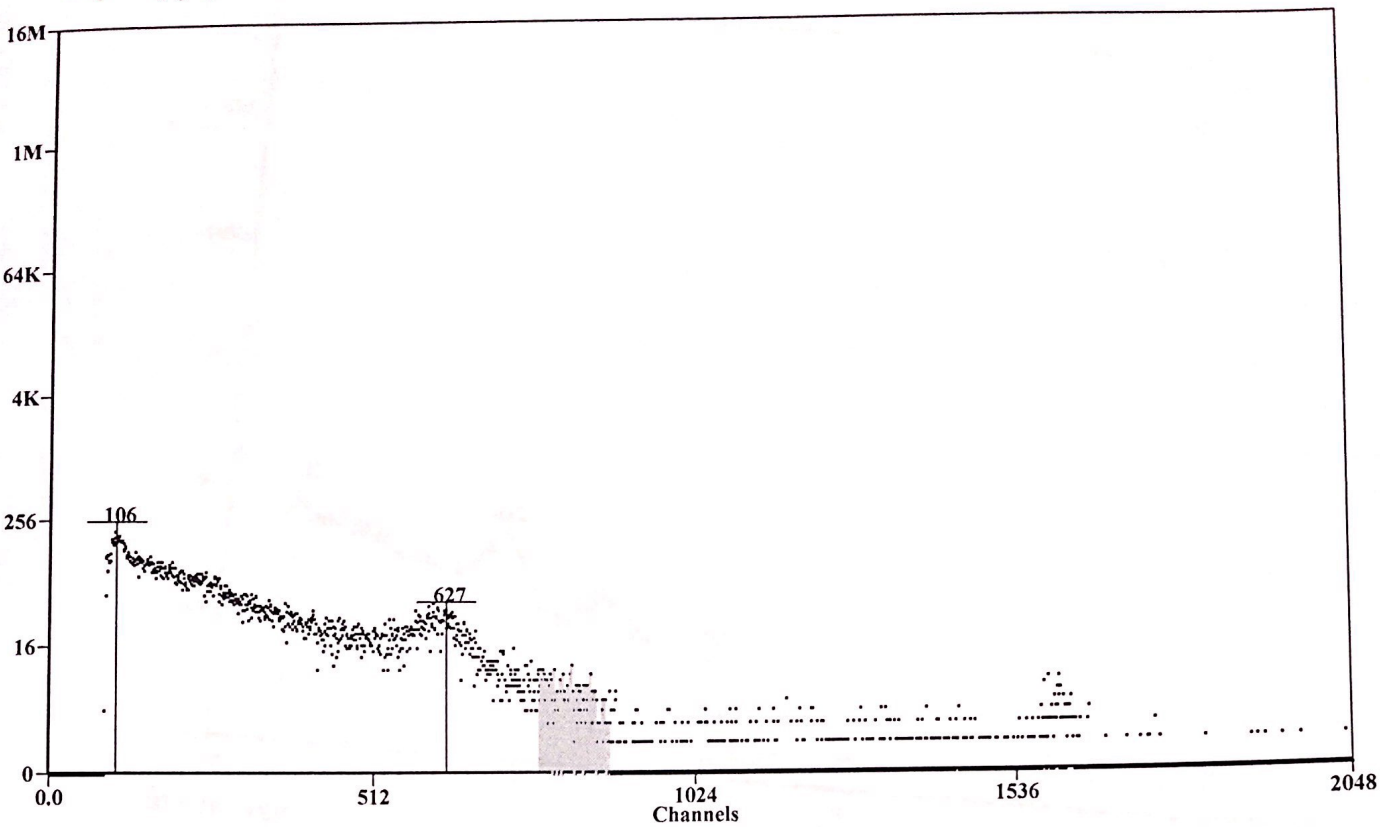
SET UP
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 622.18 Real Time: 622.88

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.11

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	16319	-146	230	3

105° WO



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 04:29:15
End Time: September 12, 2019, 04:33:20

SET UP

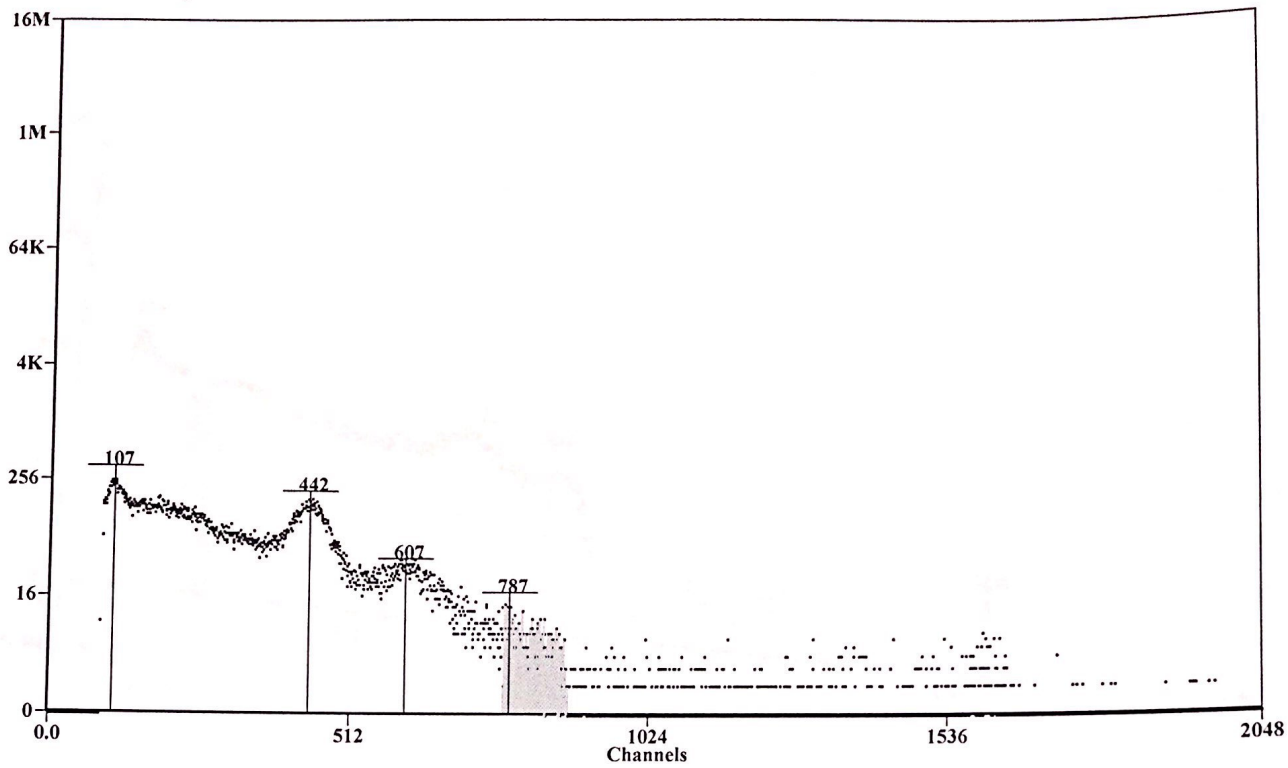
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 244.62 Real Time: 245.28

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.26

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
775	886	516	181	823	3

105° W



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 04:34:41
End Time: September 12, 2019, 04:39:12

SET UP

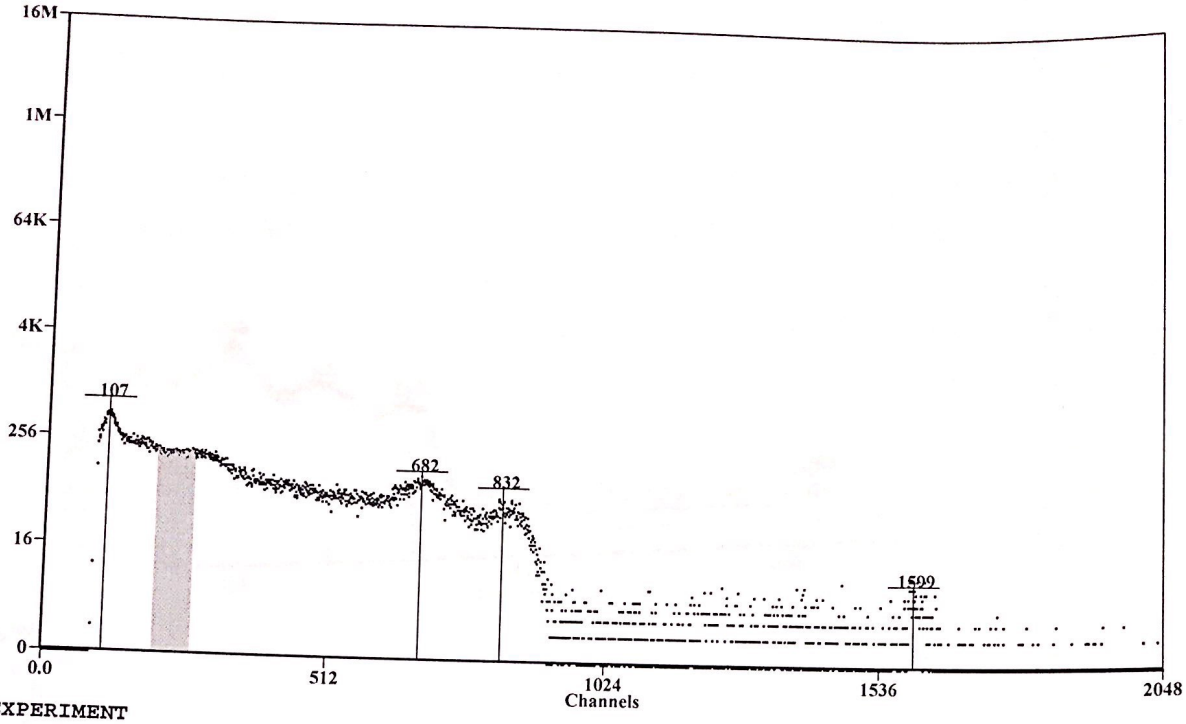
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 270.9 Real Time: 271.09

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.07

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
775	886	625	346	821	--

120° without



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 02:56:52
End Time: September 12, 2019, 03:04:36

SET UP

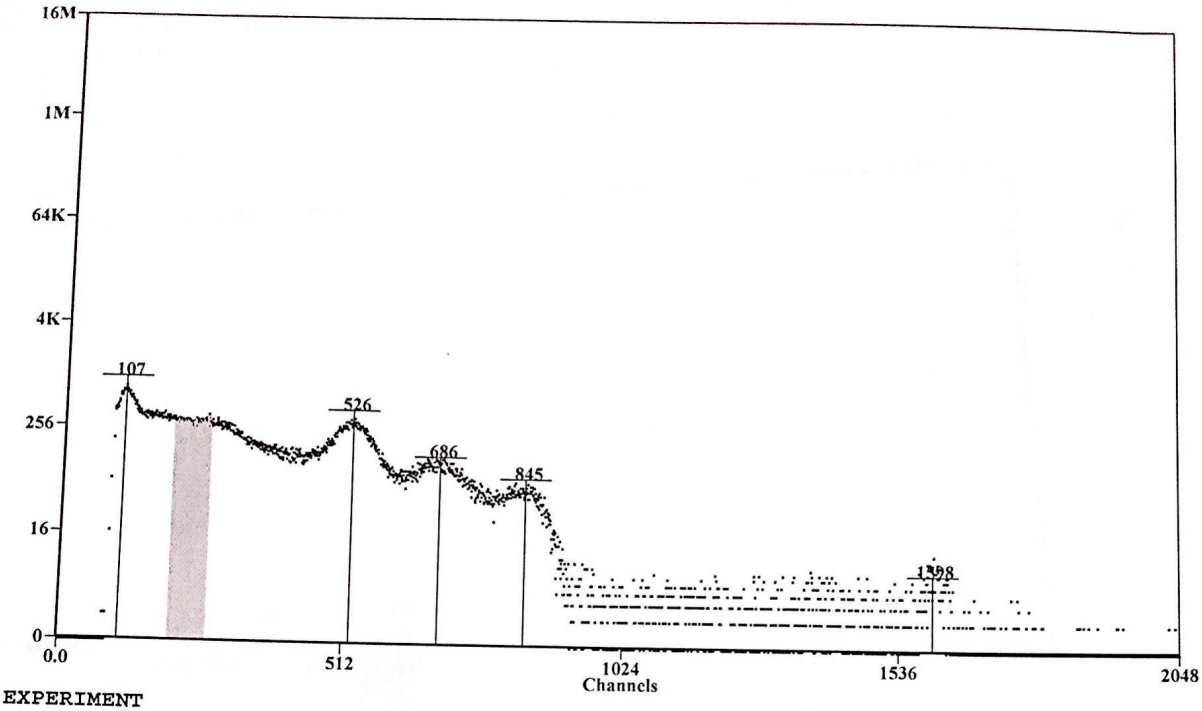
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 463.26 Real Time: 464.29

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.22

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	11725	3	231	7

120° W



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 03:06:03
End Time: September 12, 2019, 03:15:01

SET UP

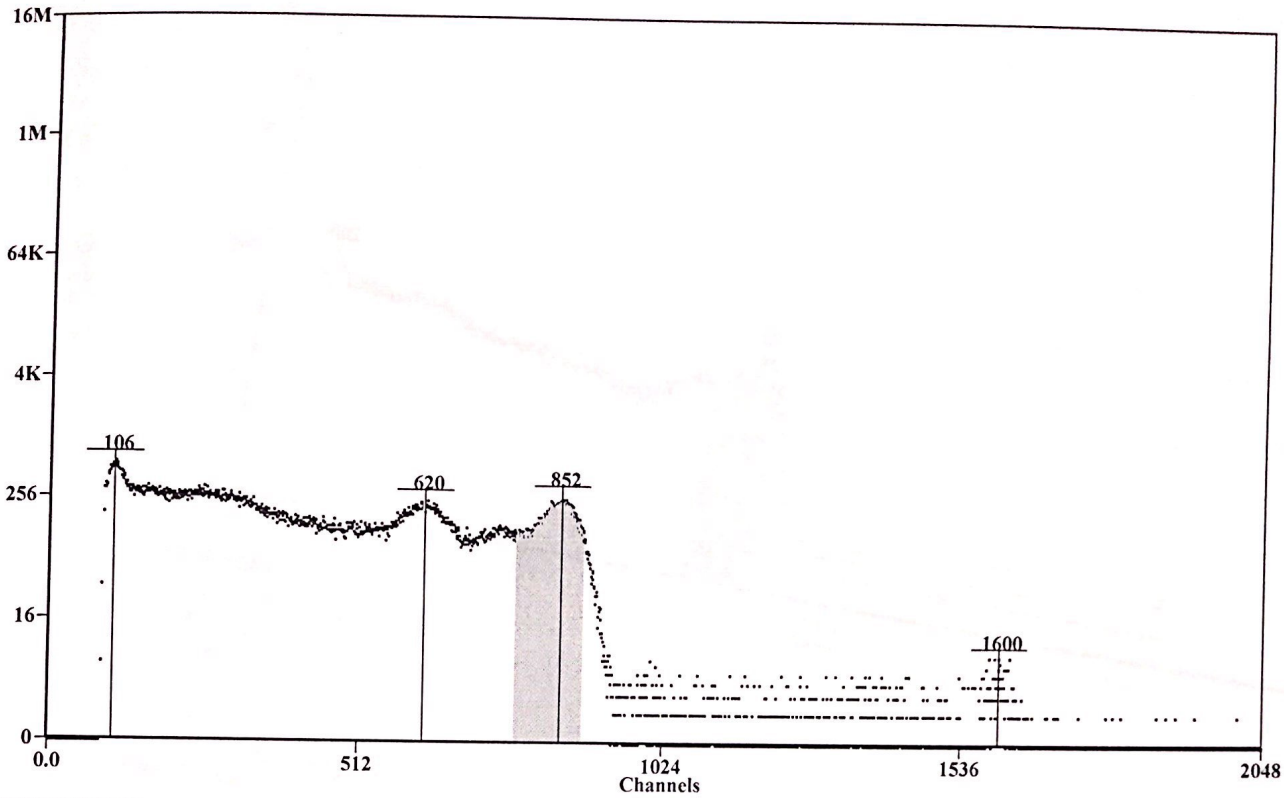
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 536.73 Real Time: 538.38

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.30

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	20036	169	231	2

135° W



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 04:22:03
End Time: September 12, 2019, 04:27:37

SET UP

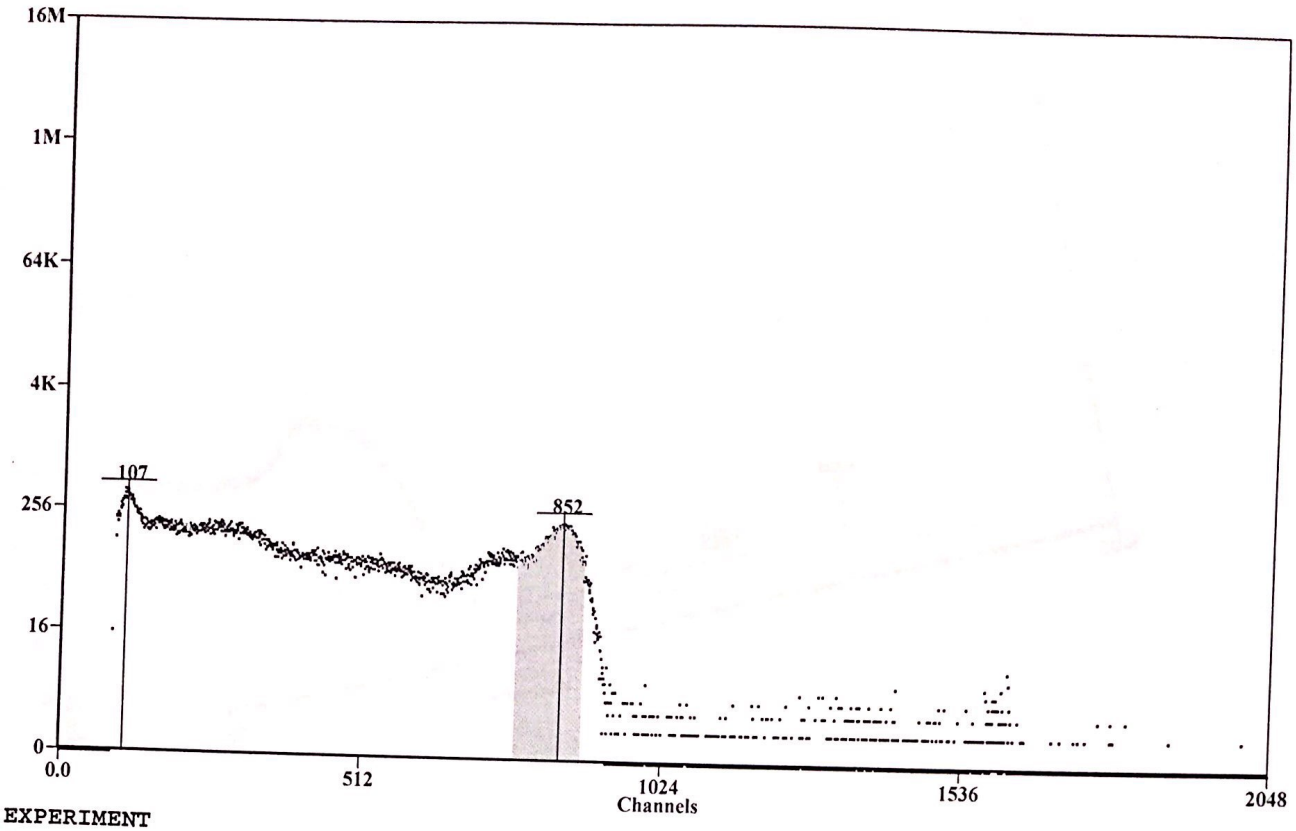
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 332.27 Real Time: 333.63

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.40

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
775	886	21516	7347	835	36

135° W 0



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 04:15:35
End Time: September 12, 2019, 04:19:57

SET UP

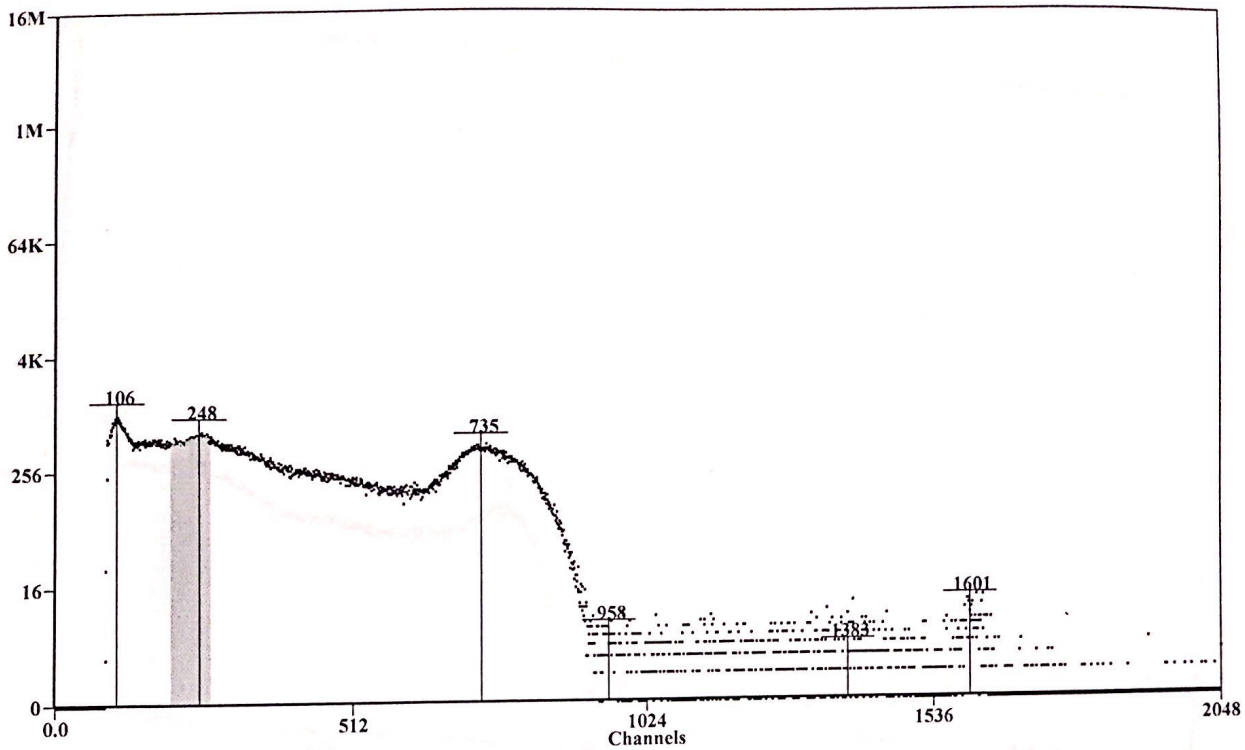
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 260.96 Real Time: 262.42

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.55

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
775	886	16633	6103	835	39

150 with



EXPERIMENT
Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 02:33:14
End Time: September 12, 2019, 02:43:47

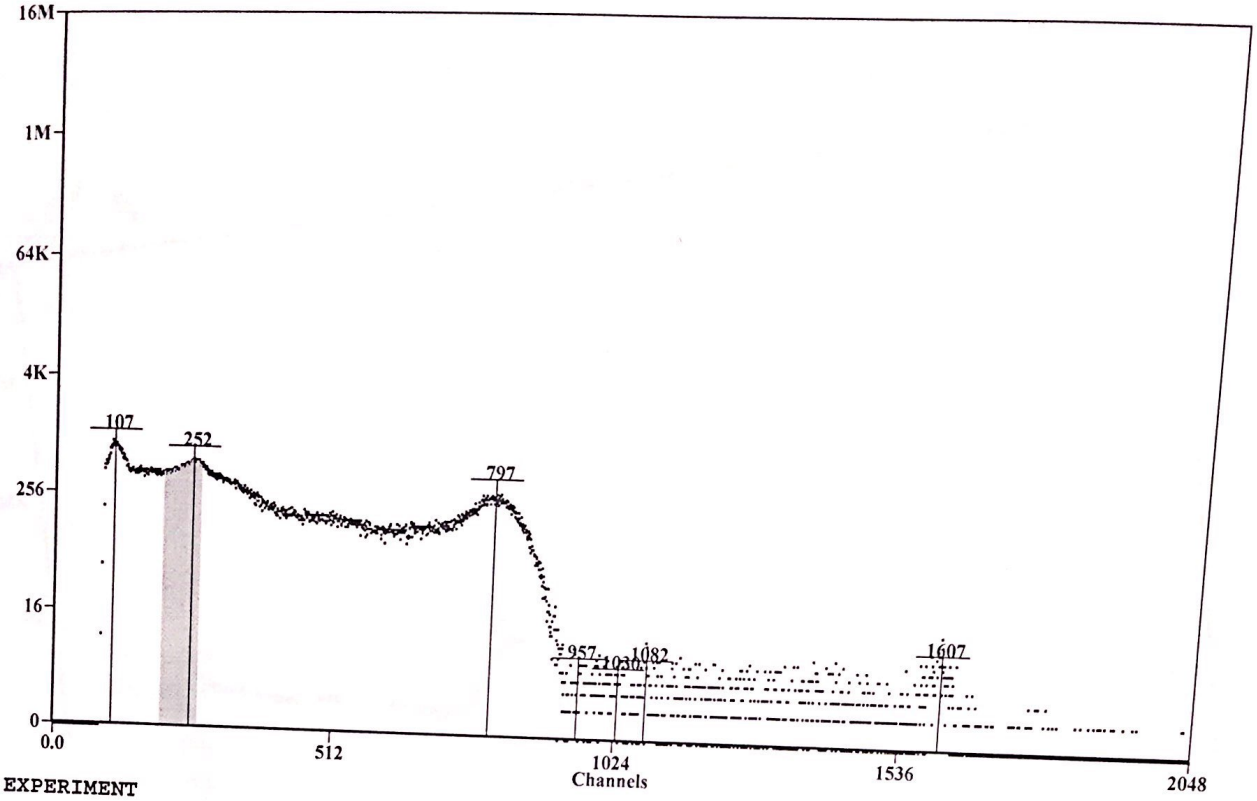
SET UP
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 539.73 Real Time: 543.34

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.66

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	38724	2588	232	11

152 without



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 02:45:25
End Time: September 12, 2019, 02:54:47

SET UP

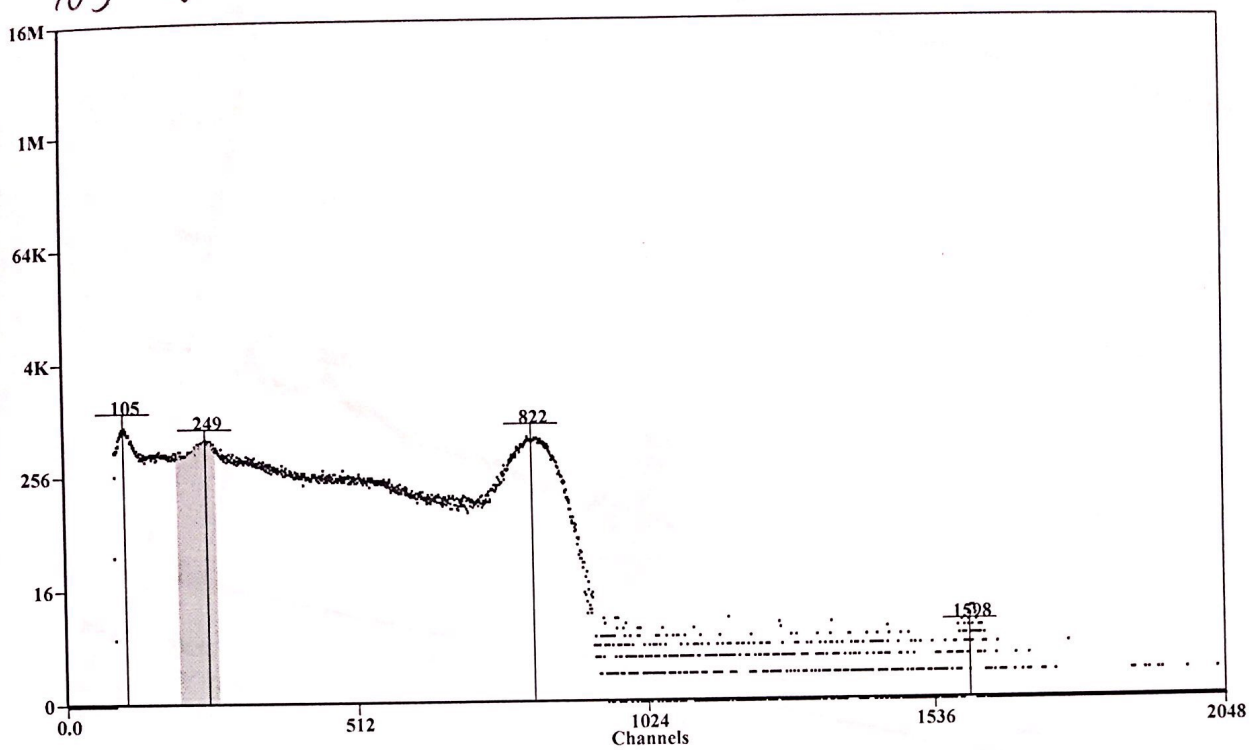
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 559.58 Real Time: 561.6

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.35

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	33071	1126	233	11

165° W



EXPERIMENT
Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 04:02:07
End Time: September 12, 2019, 04:08:02

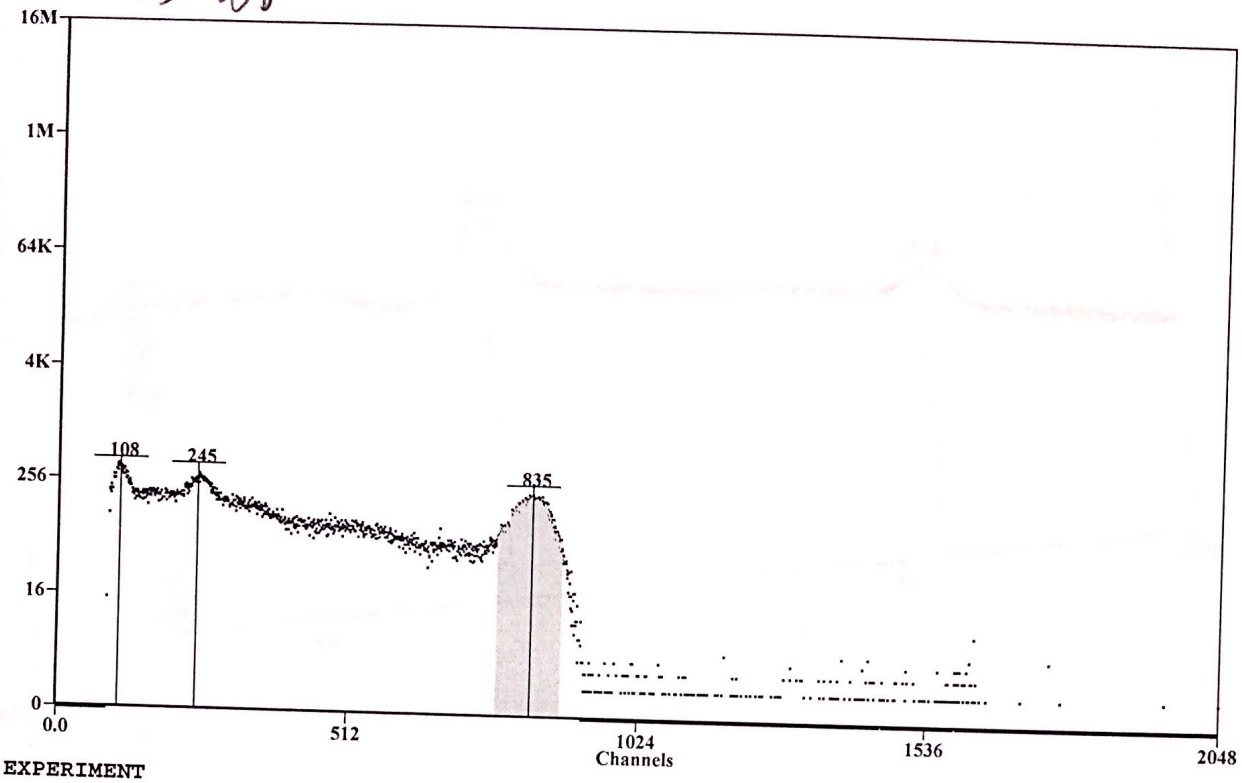
SET UP
Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 353.3 Real Time: 356.38

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.86

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
199	264	35387	3607	233	19

165° WD



EXPERIMENT

Spectrum Name:
Description:
Student ID:
Detector:
Comments:
Start Time: September 12, 2019, 04:09:22
End Time: September 12, 2019, 04:12:20

SET UP

Acquisition Mode: PHA Pre-Amp
Conversion Gain: 2048 Coarse Gain: 8
Upper Discriminator: 2175 Channels
Live Time: 176.59 Real Time: 177.86

High Voltage: 900
Fine Gain: 1.0
Upper Discriminator: 93 Channels
Percent Dead: 0.71

REGIONS OF INTEREST

Peak Start	Peak End	Gross	Net	Centroid	FWHM
775	886	16747	8684	830	56