Program EVALPLOT
(Version 2018-1)
by
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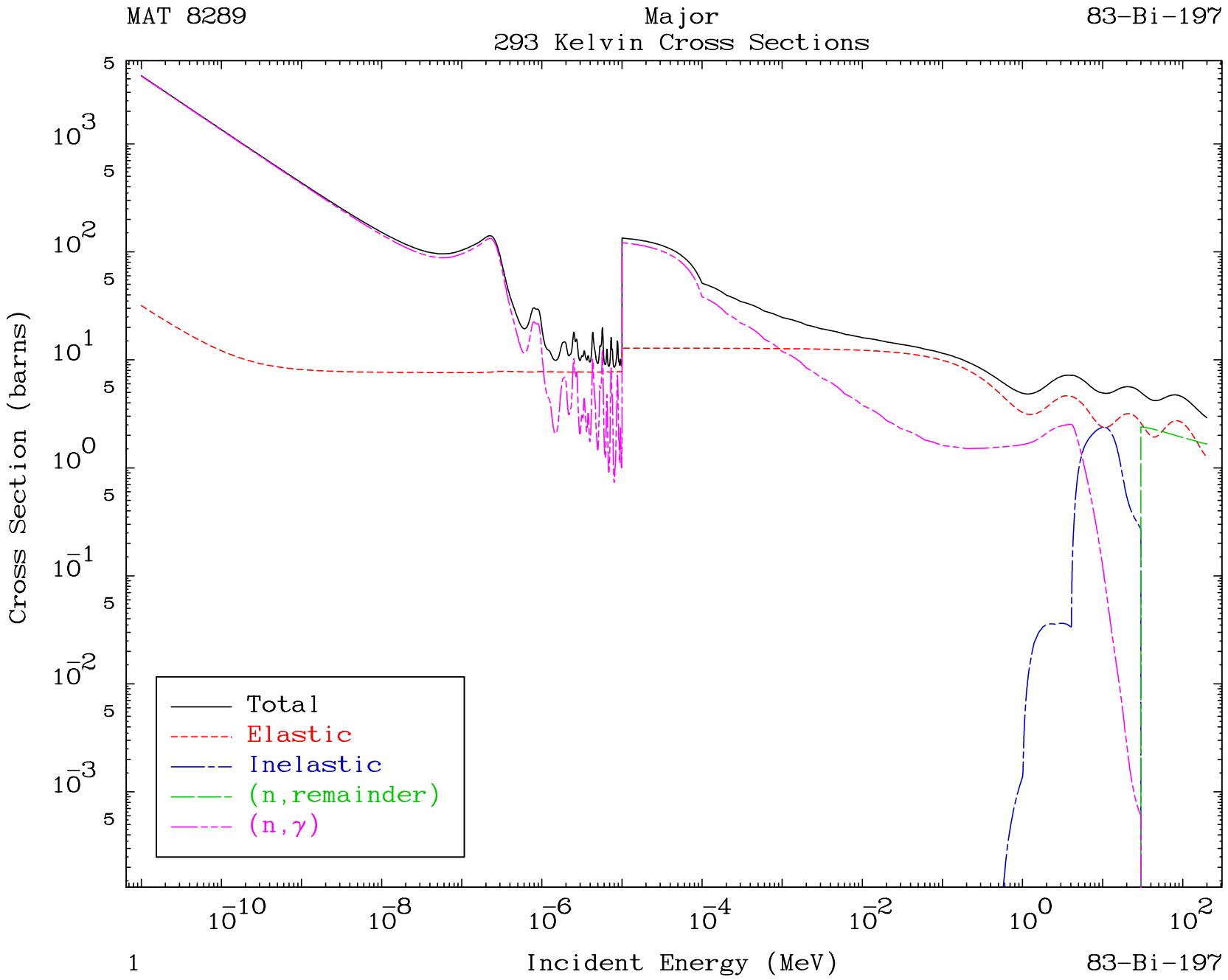
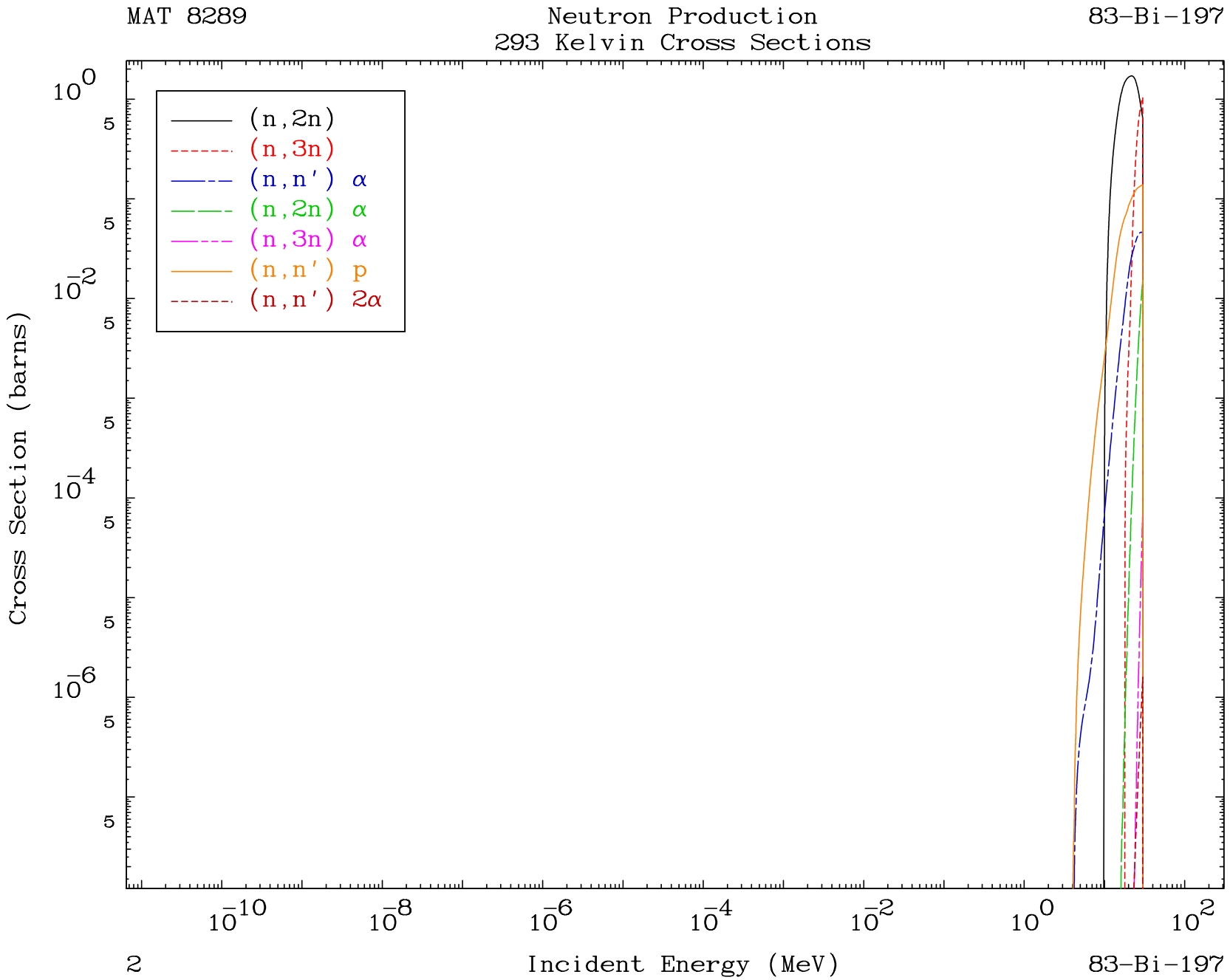
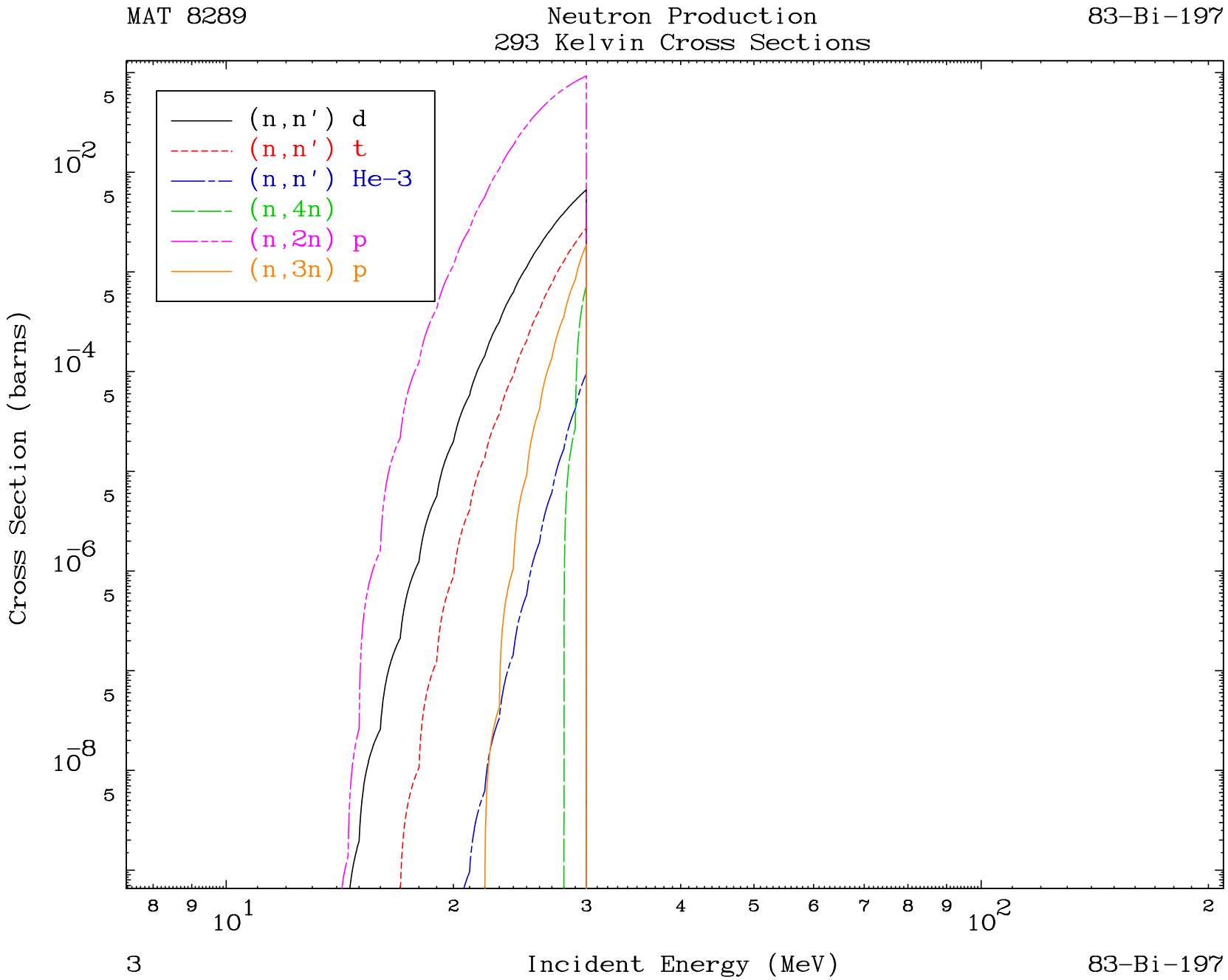
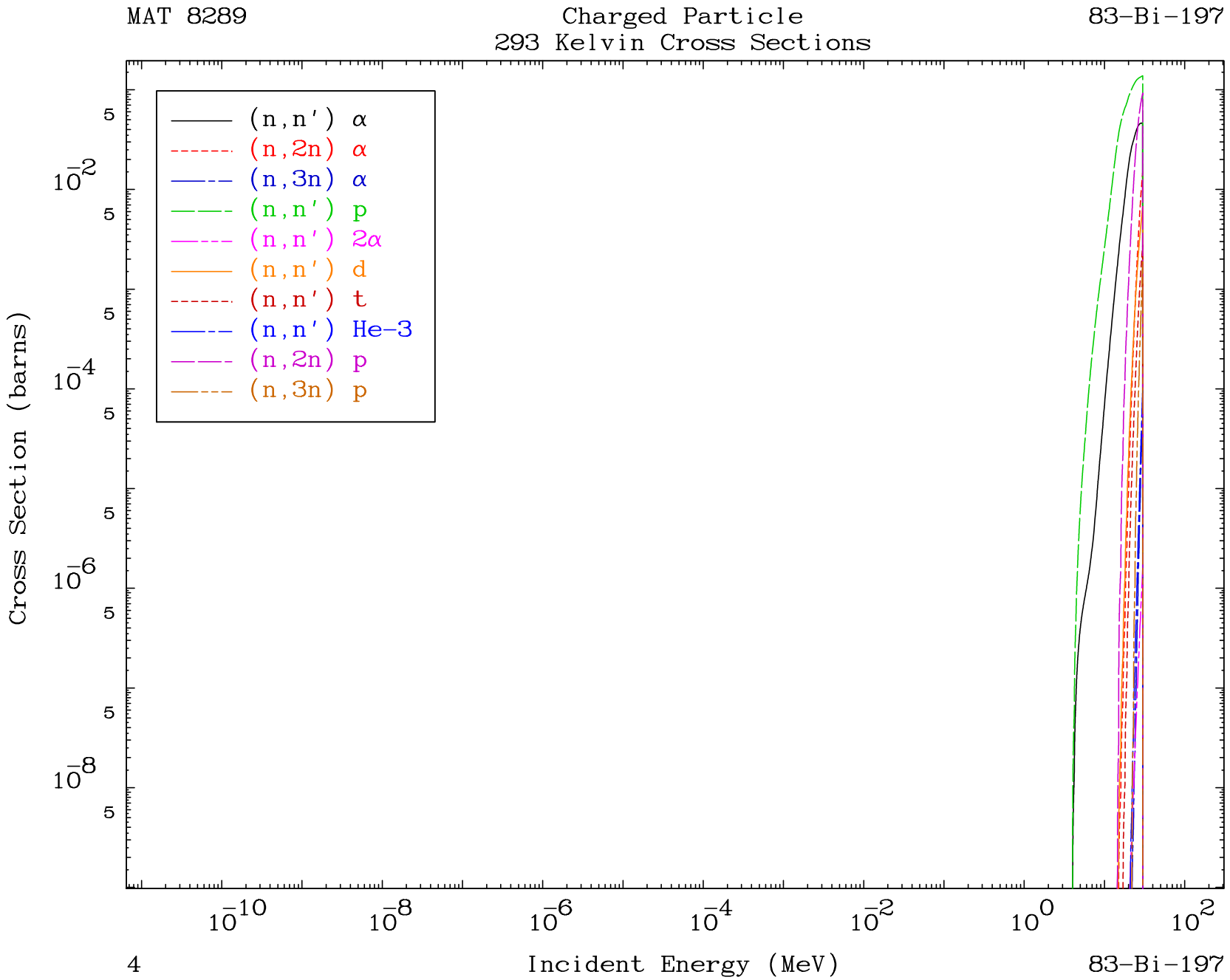
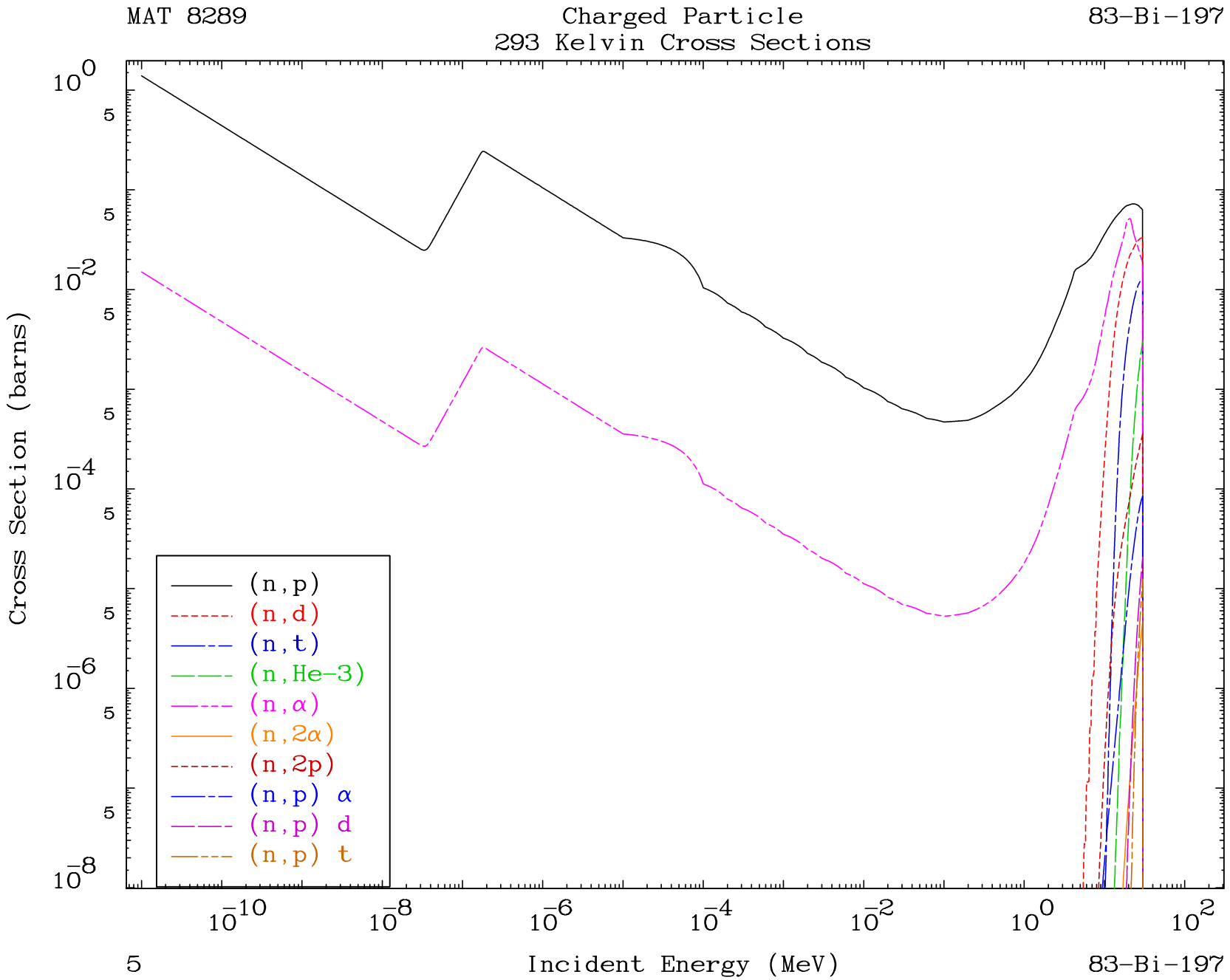
Press Mouse Button to Start

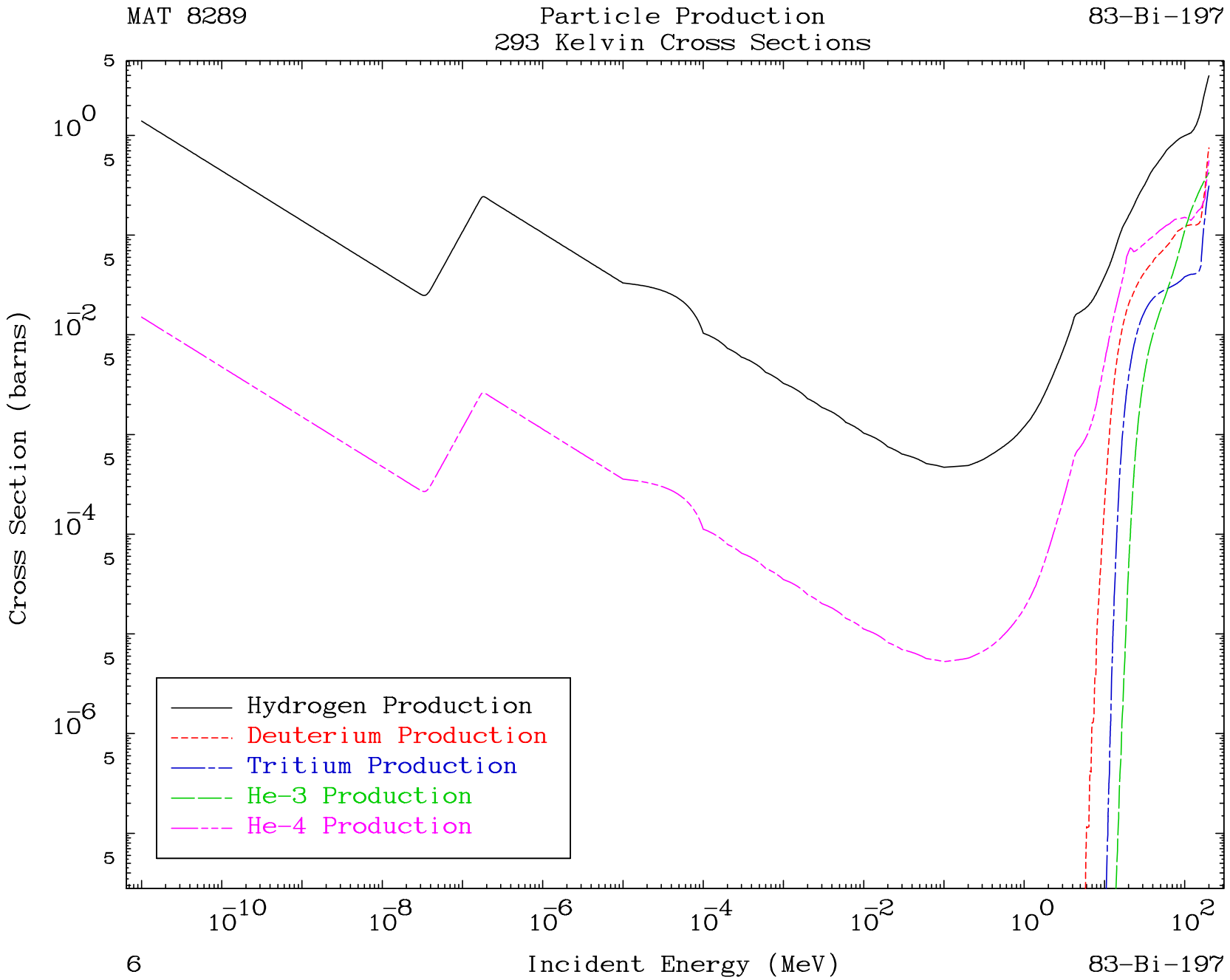

MAT 8289
Major
83-Bi-197
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
83-Bi-197

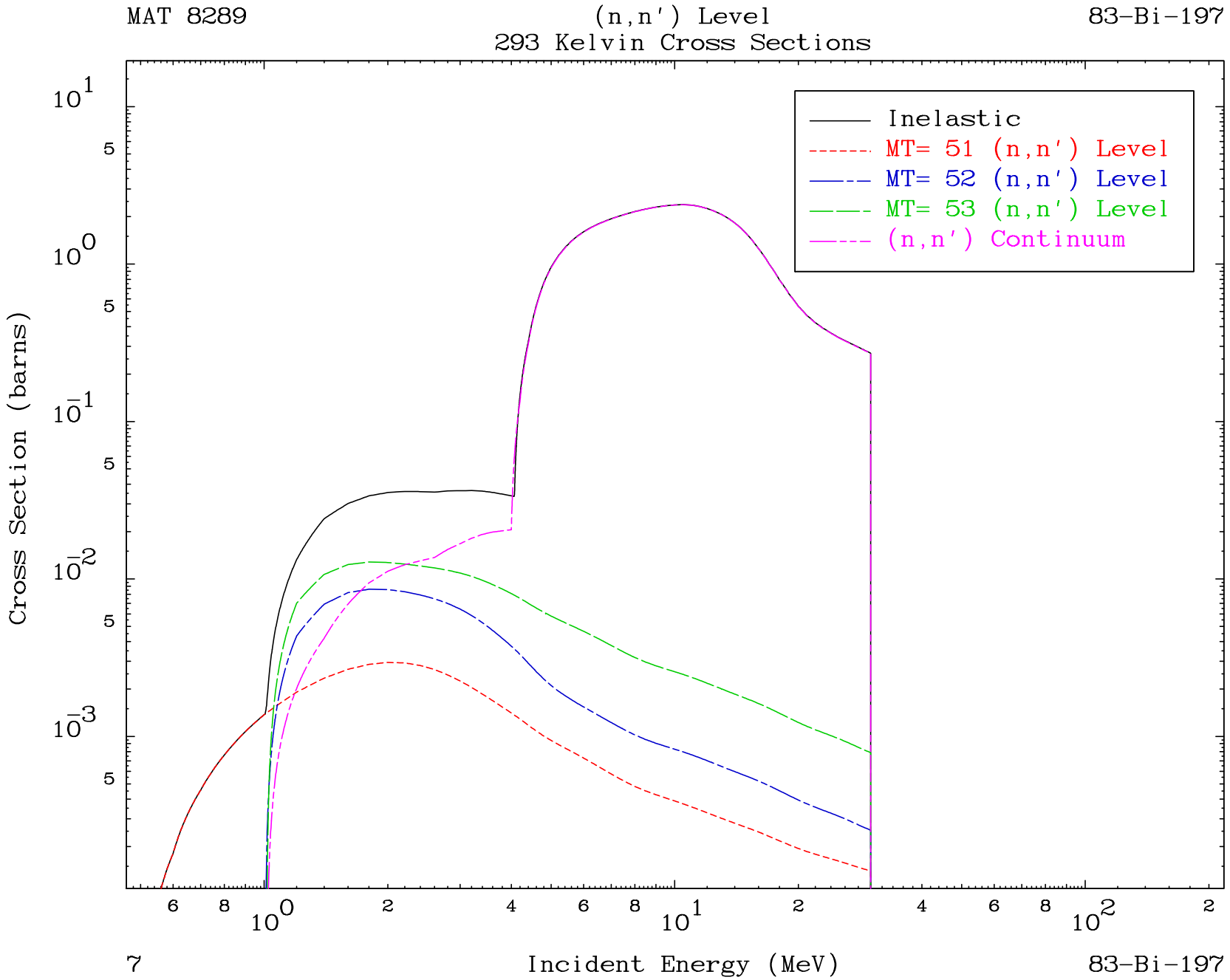

MAT 8289
Neutron Production
293 Kelvin Cross Sections
83-Bi-197
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
Cross Section (barns)
Incident Energy (MeV)
83-Bi-197
2

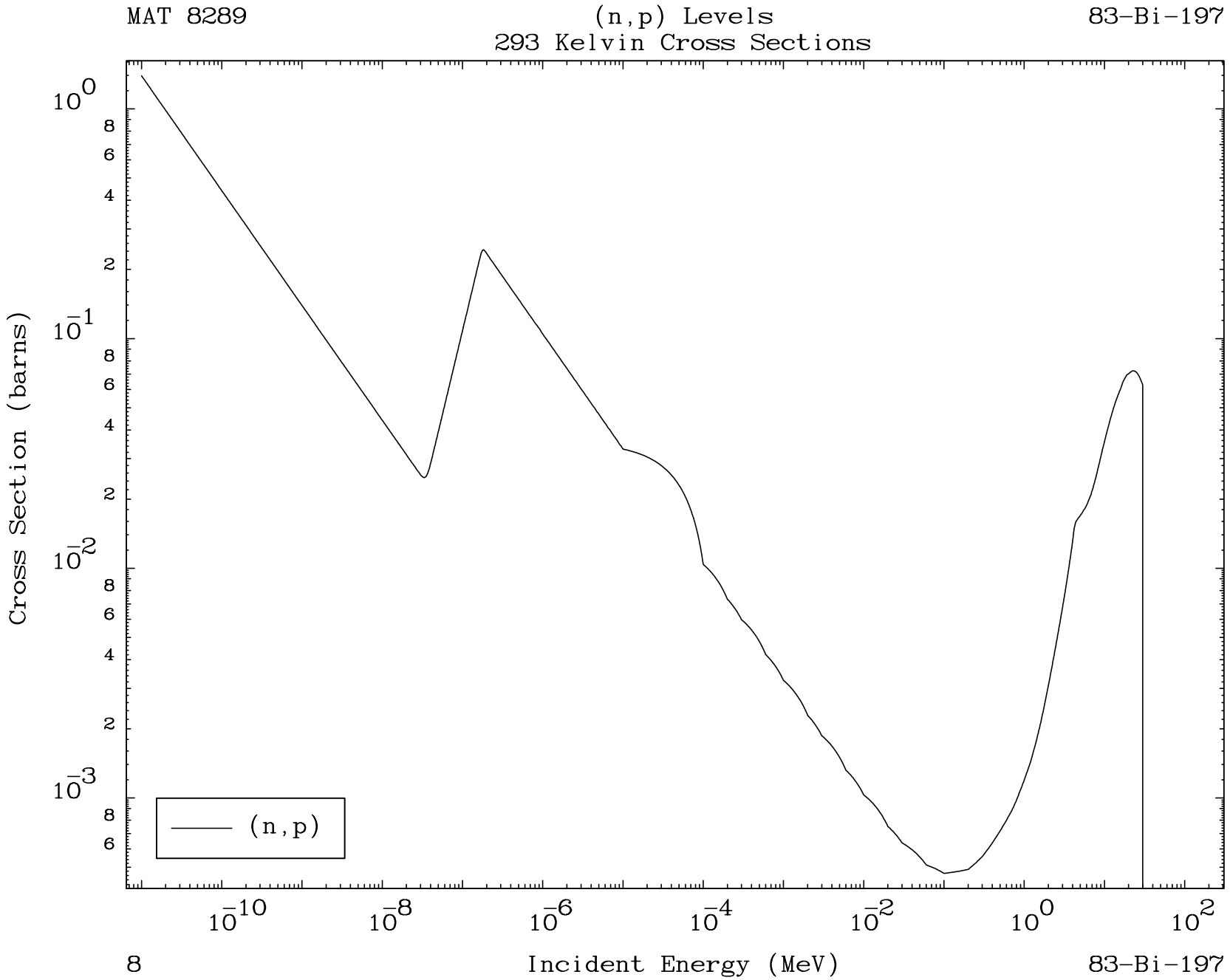

MAT 8289
Neutron Production
293 Kelvin Cross Sections
83-Bi-197
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
3
83-Bi-197

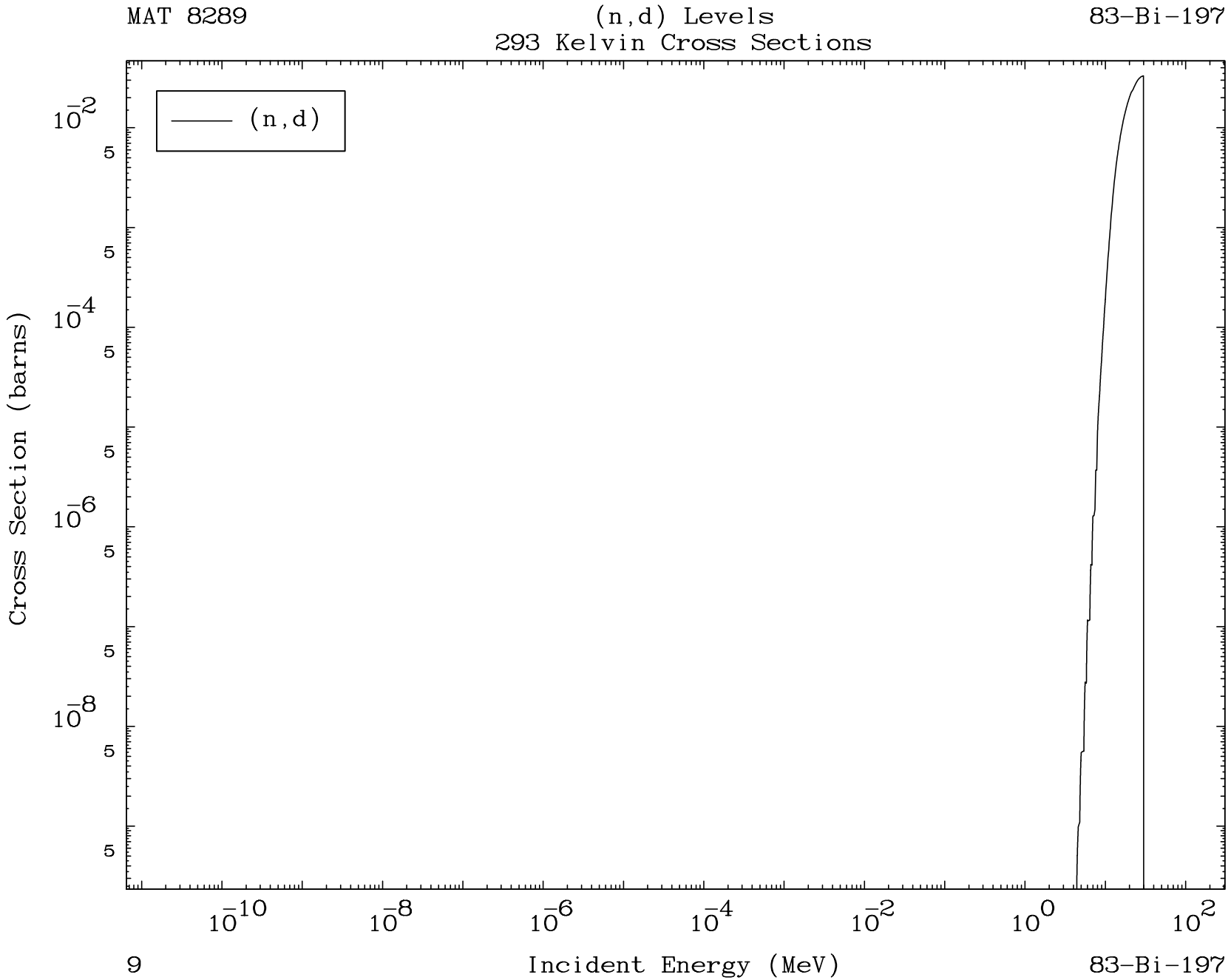

MAT 8289
Charged Particle
293 Kelvin Cross Sections
83-Bi-197
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
4
83-Bi-197

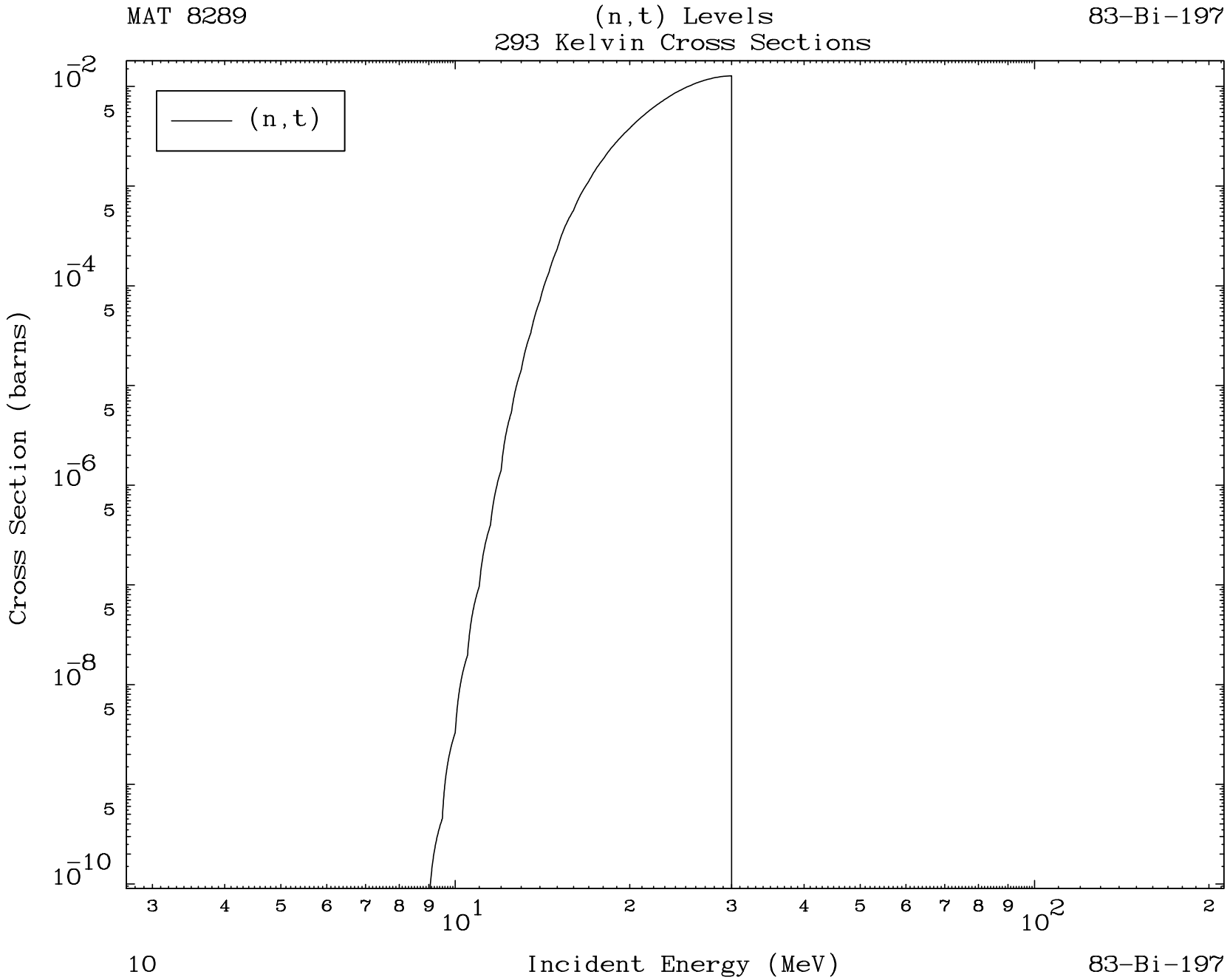

MAT 8289
Charged Particle
293 Kelvin Cross Sections
83-Bi-197
Cross Section (barns)
Incident Energy (MeV)
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t

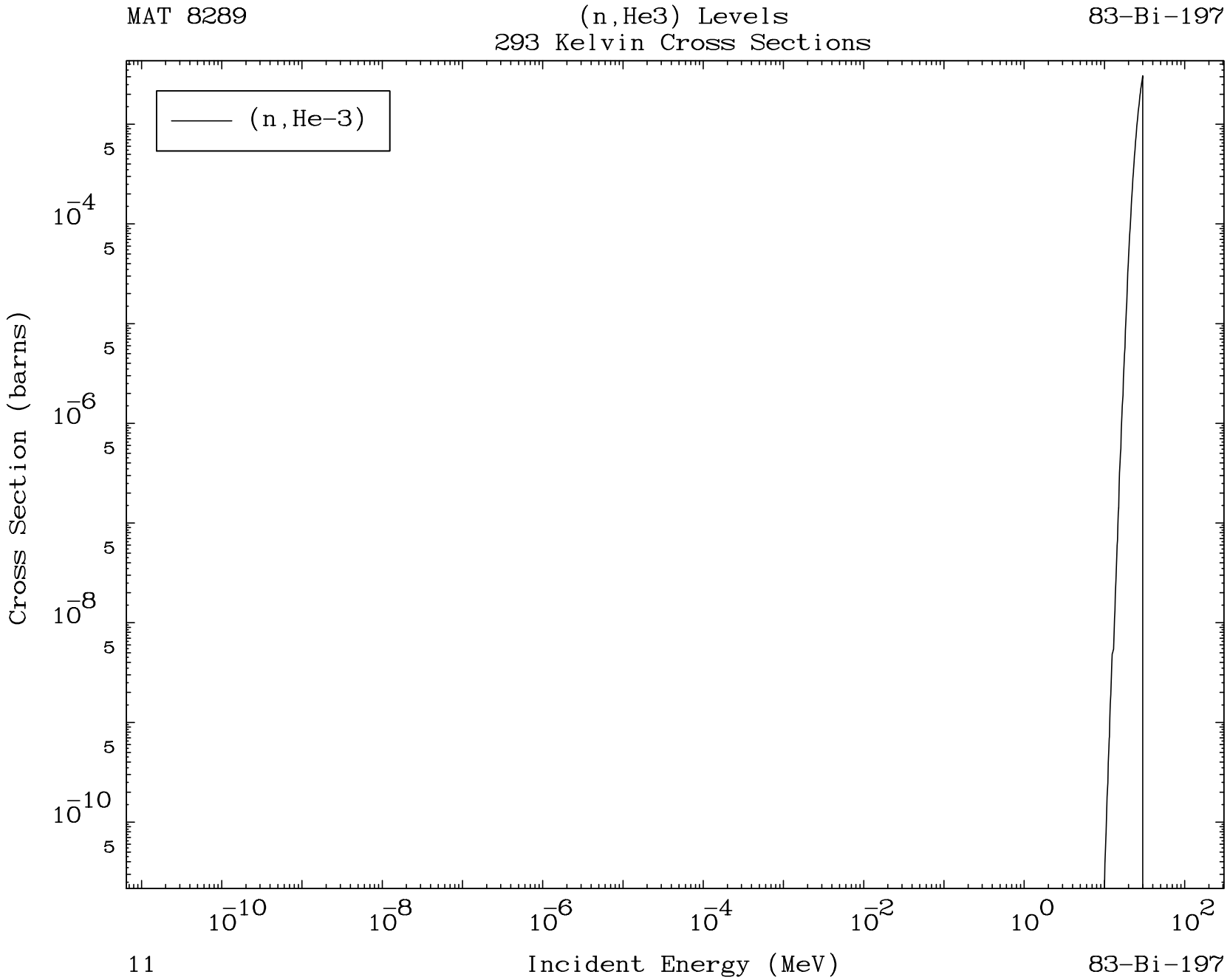

MAT 8289
Particle Production
293 Kelvin Cross Sections
83-Bi-197
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
6
83-Bi-197

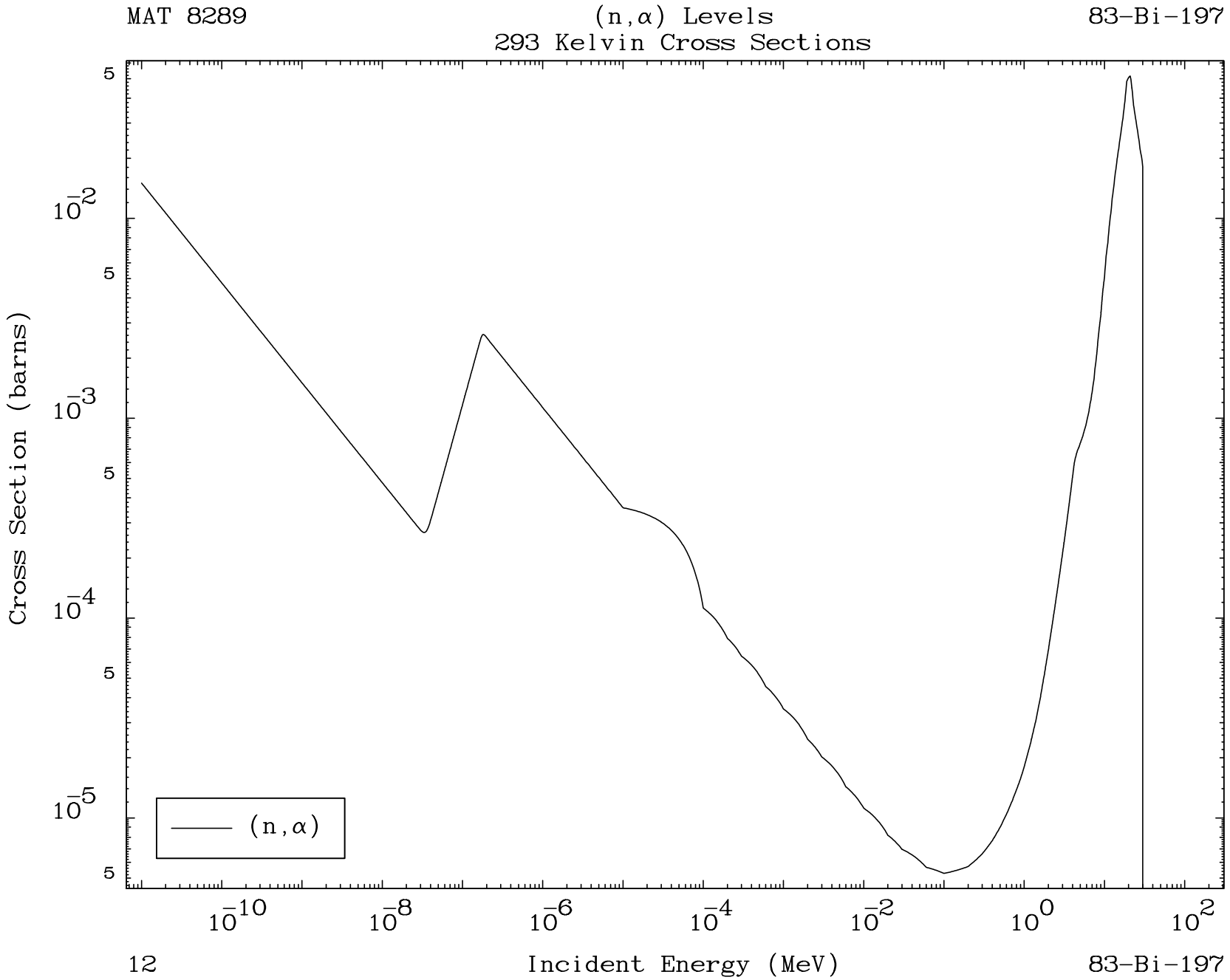

MAT 8289
(n,n') Level
293 Kelvin Cross Sections
83-Bi-197
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
7
83-Bi-197

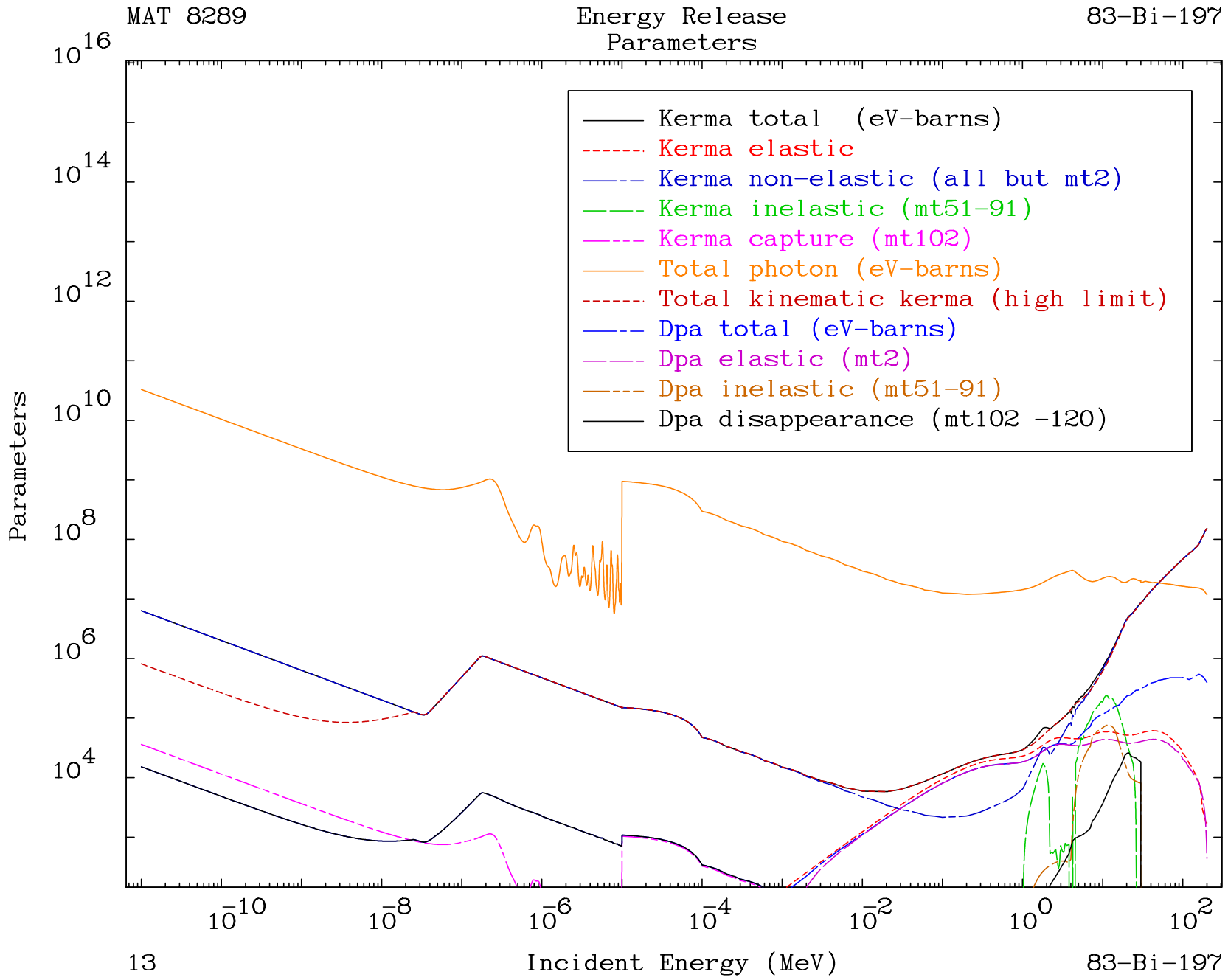

MAT 8289
(n,p) Levels
83-Bi-197
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
(n,p)
8
83-Bi-197

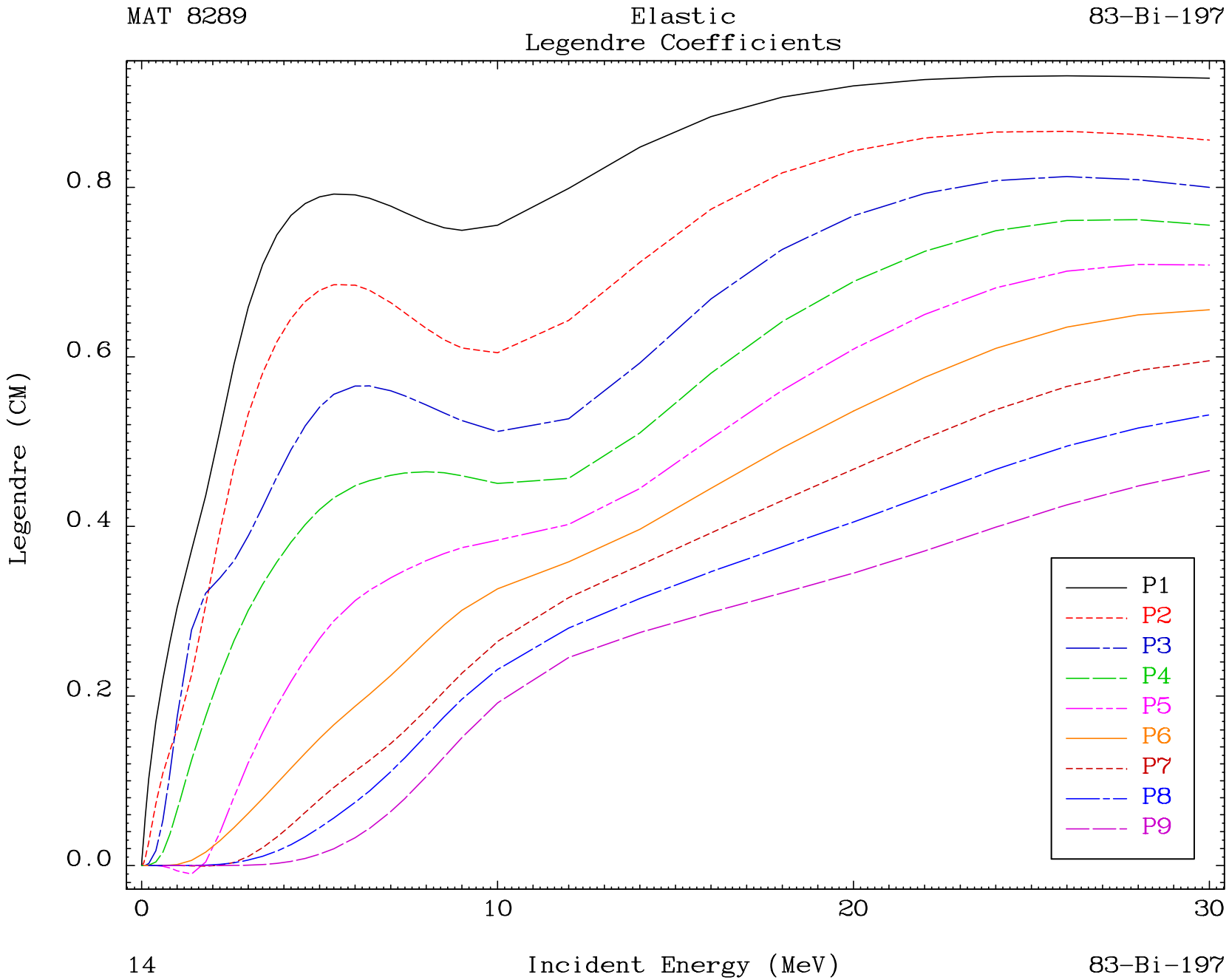

MAT 8289
(n,d) Levels
83-Bi-197
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
9
83-Bi-197

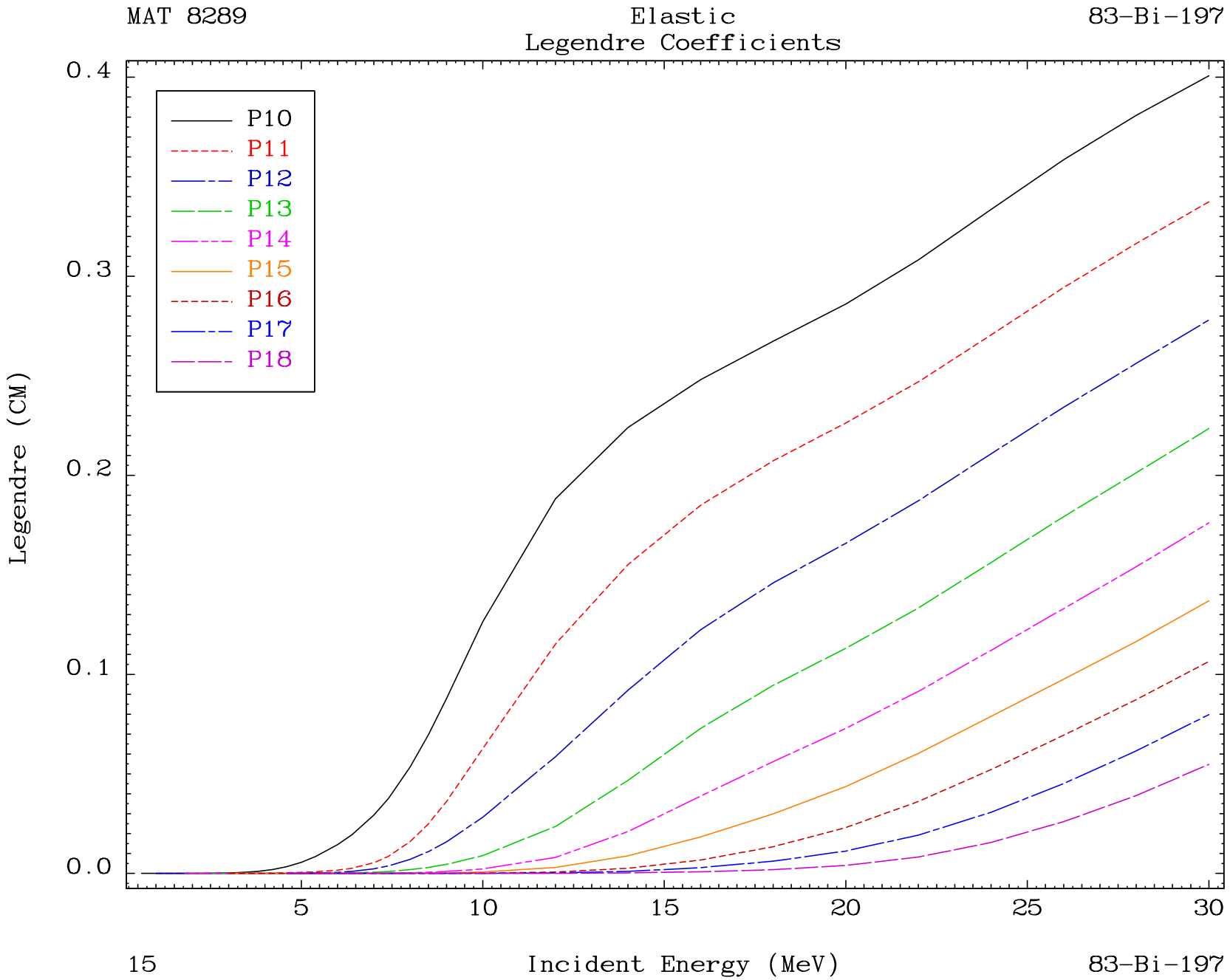

MAT 8289
(n,t) Levels
83-Bi-197
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
83-Bi-197

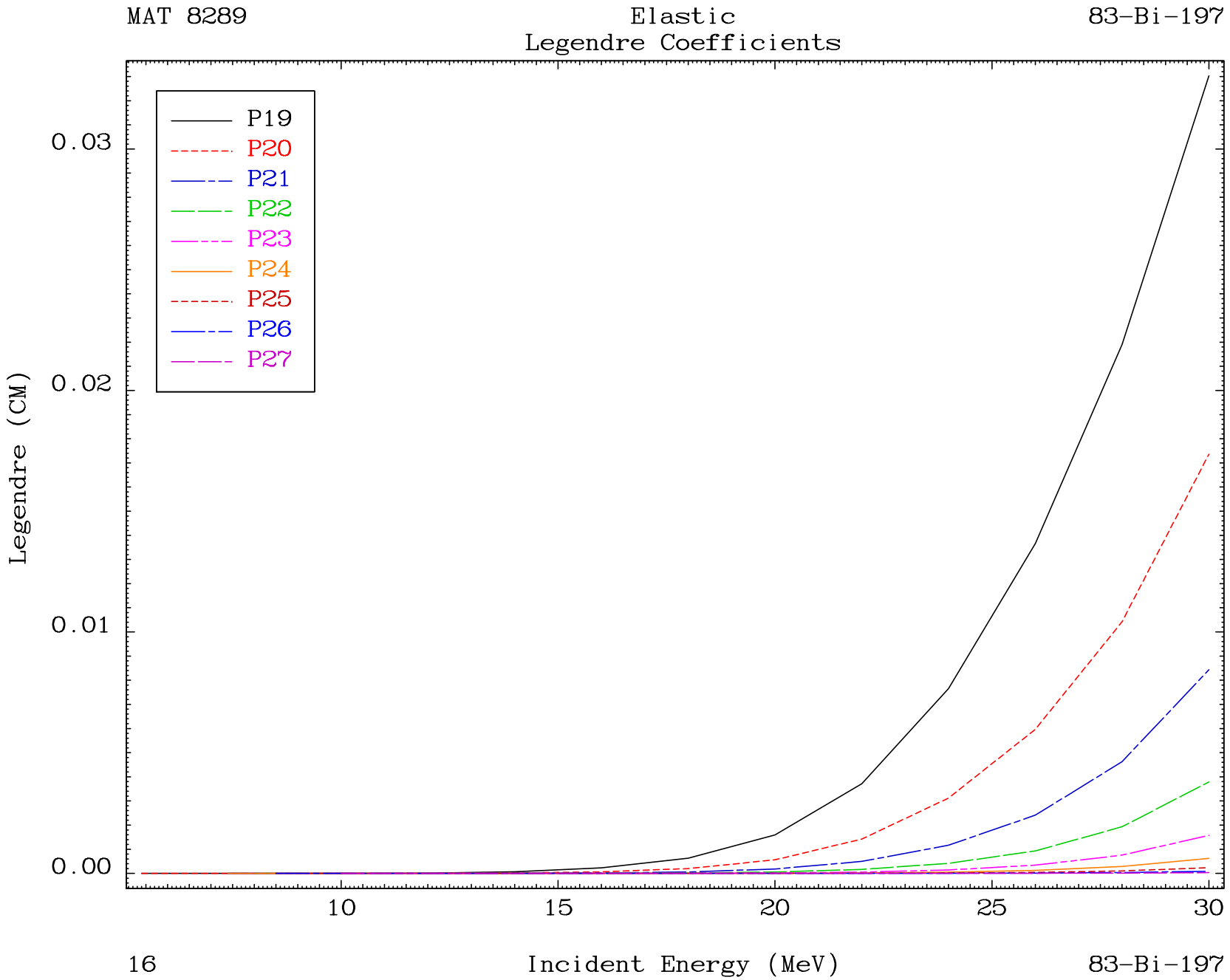

MAT 8289
(n,He3) Levels
83-Bi-197
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
11
83-Bi-197

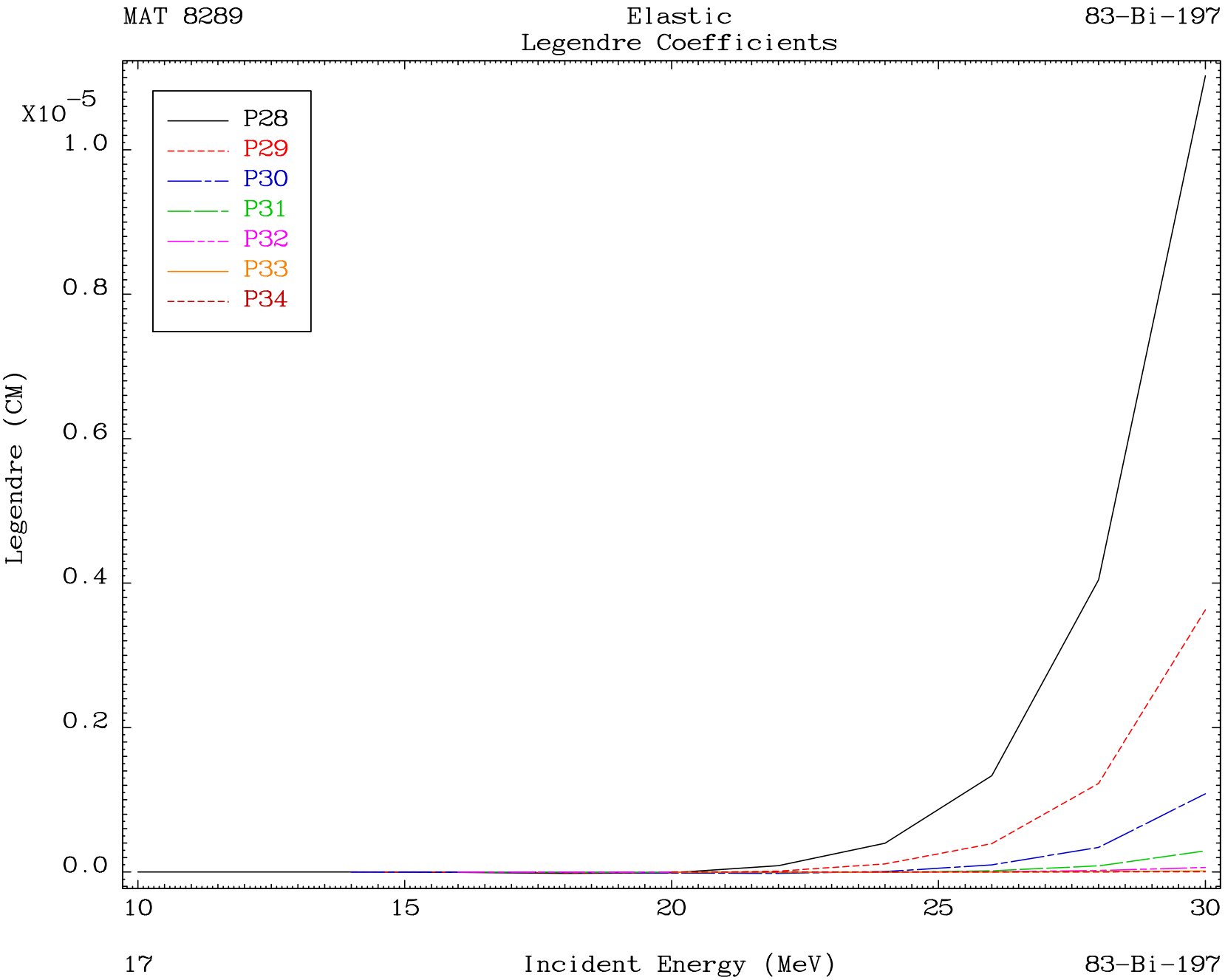

MAT 8289
(n,α) Levels
83-Bi-197
293 Kelvin Cross Sections
Cross Section (barns)
5
10-2
5
10-3
5
10-4
5
10-5
5
(n,α)
10-10
10-8
10-6
10-4
10-2
100
102
12
Incident Energy (MeV)
83-Bi-197

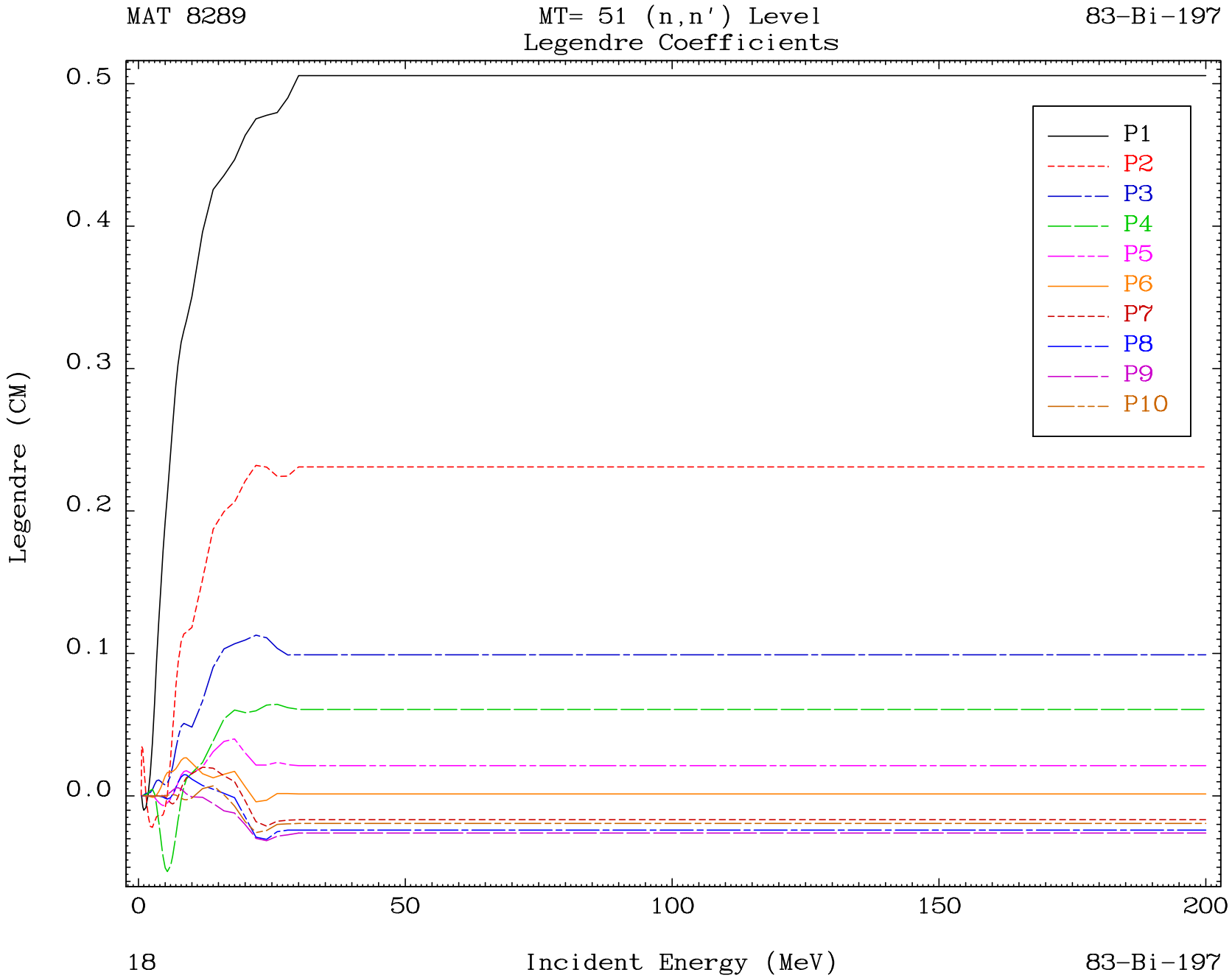

MAT 8289
Energy Release
Parameters
83-Bi-197
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
Incident Energy (MeV)
13
83-Bi-197

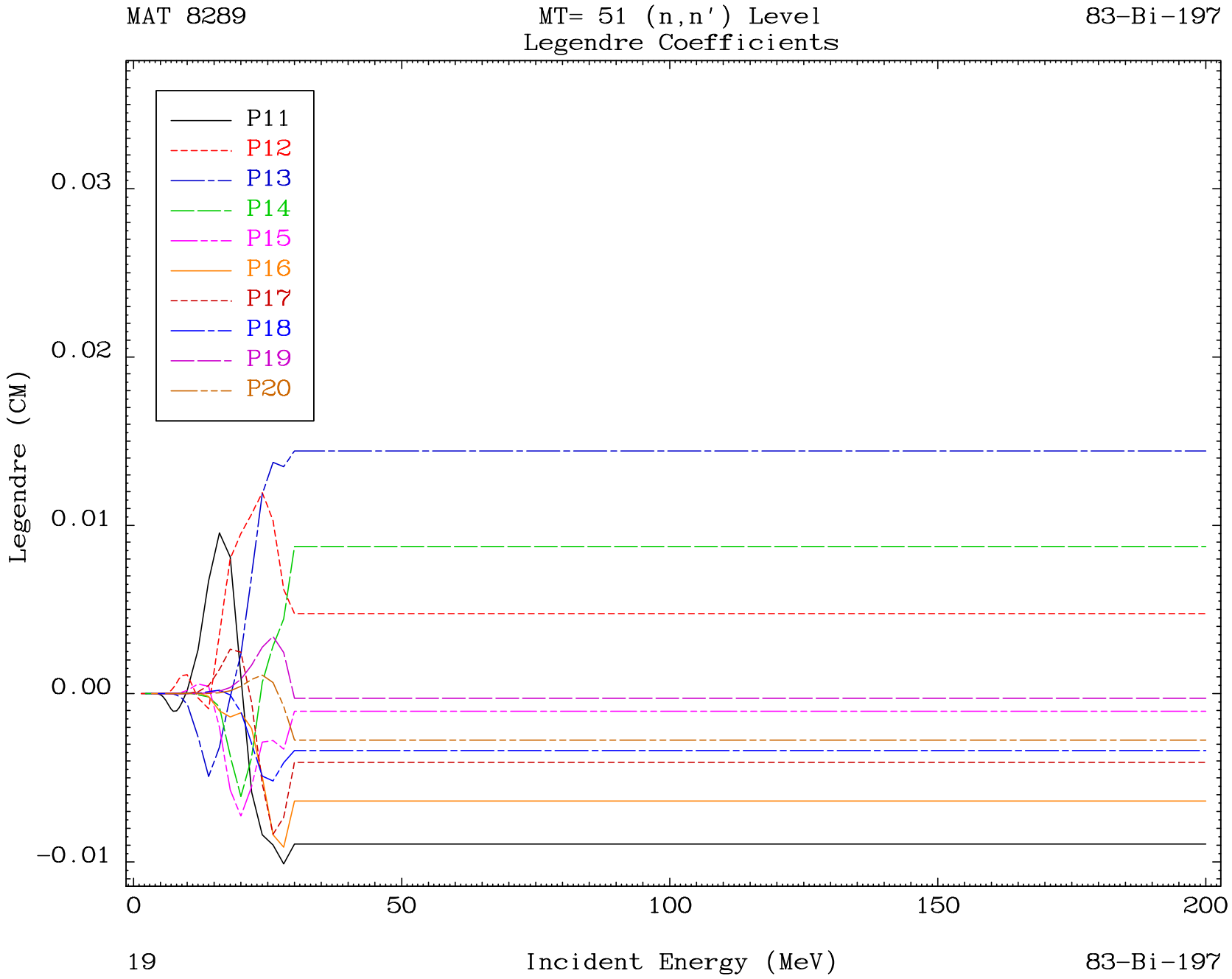

MAT 8289
Elastic
Legendre Coefficients
83-Bi-197
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
14
Incident Energy (MeV)
83-Bi-197
P1
P2
P3
P4
P5
P6
P7
P8
P9

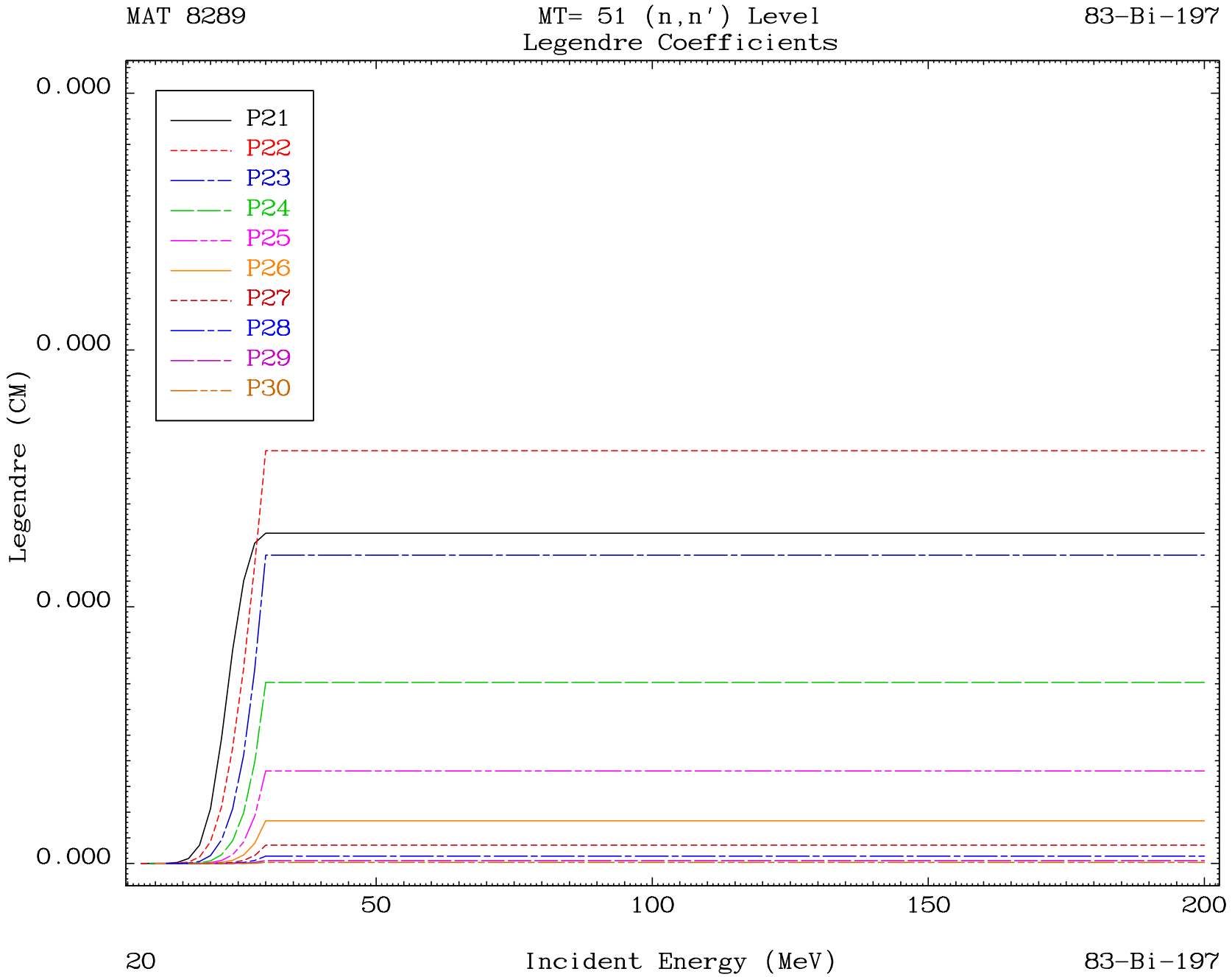

MAT 8289
Elastic
Legendre Coefficients
83-Bi-197
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
5
10
15
20
25
30
15
Incident Energy (MeV)
83-Bi-197

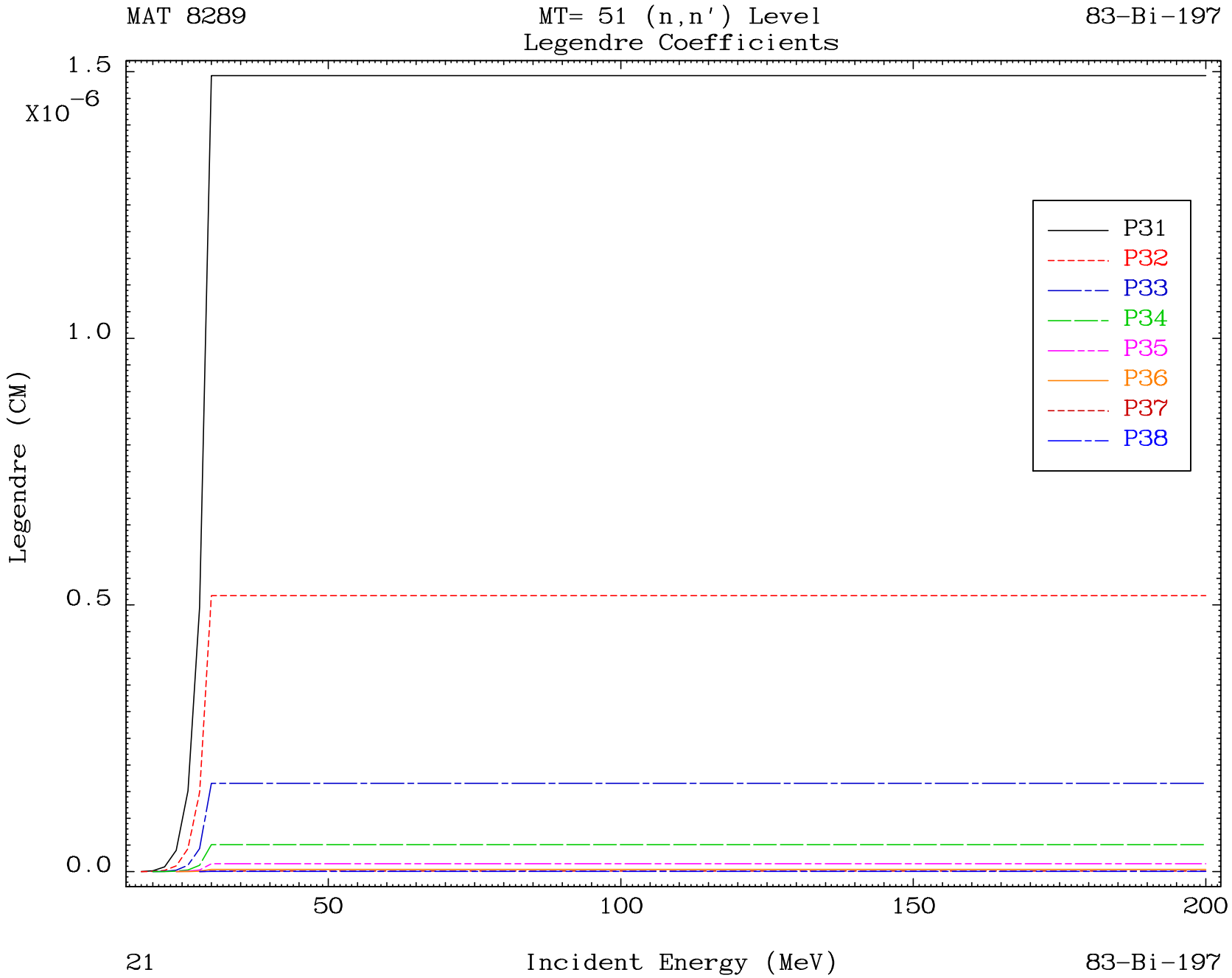

MAT 8289
Elastic
Legendre Coefficients
83-Bi-197
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.03
0.02
0.01
0.00
Legendre (CM)
10
15
20
25
30
16
Incident Energy (MeV)
83-Bi-197

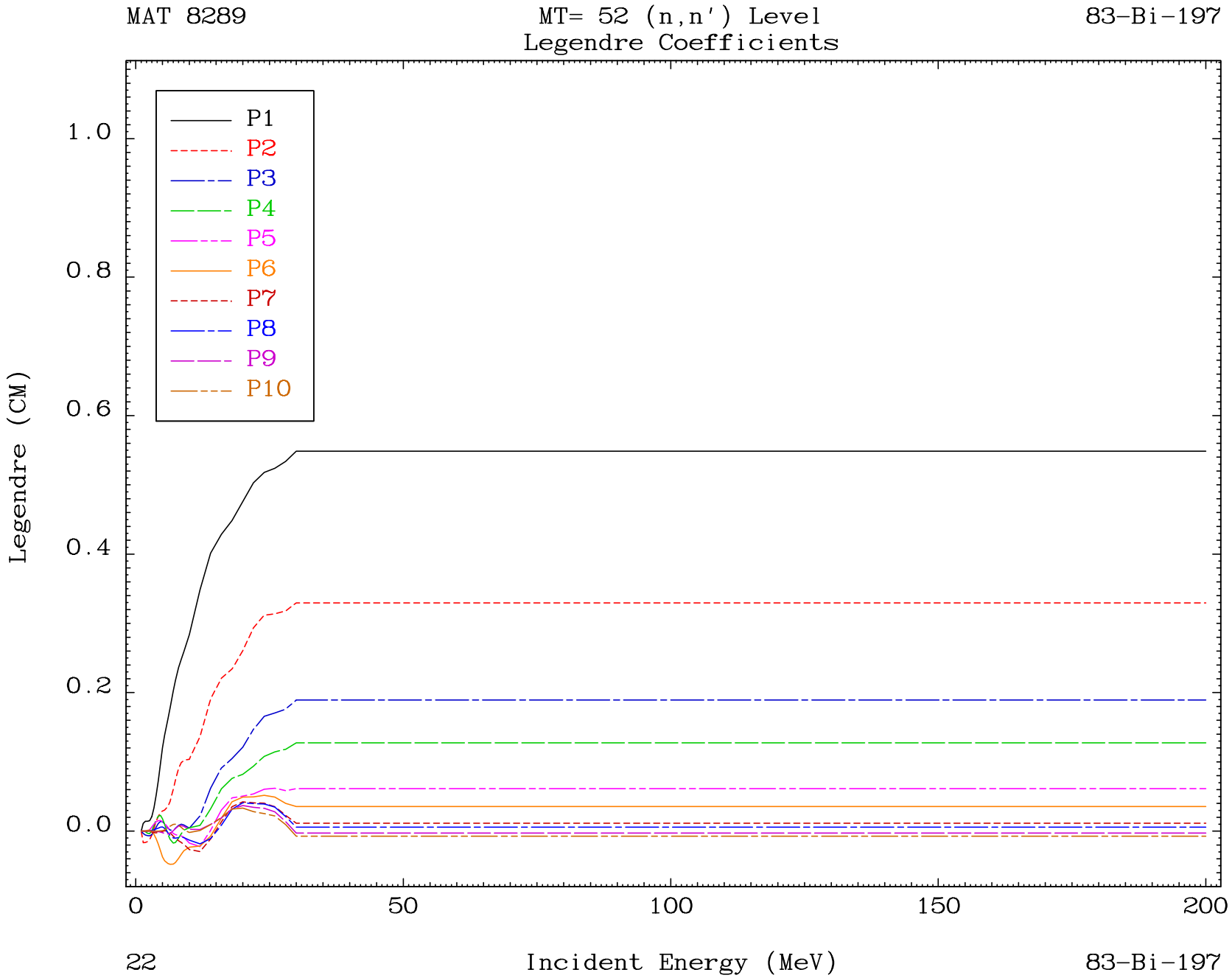

MAT 8289
Elastic
Legendre Coefficients
83-Bi-197
X10 -5
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
17
Incident Energy (MeV)
83-Bi-197

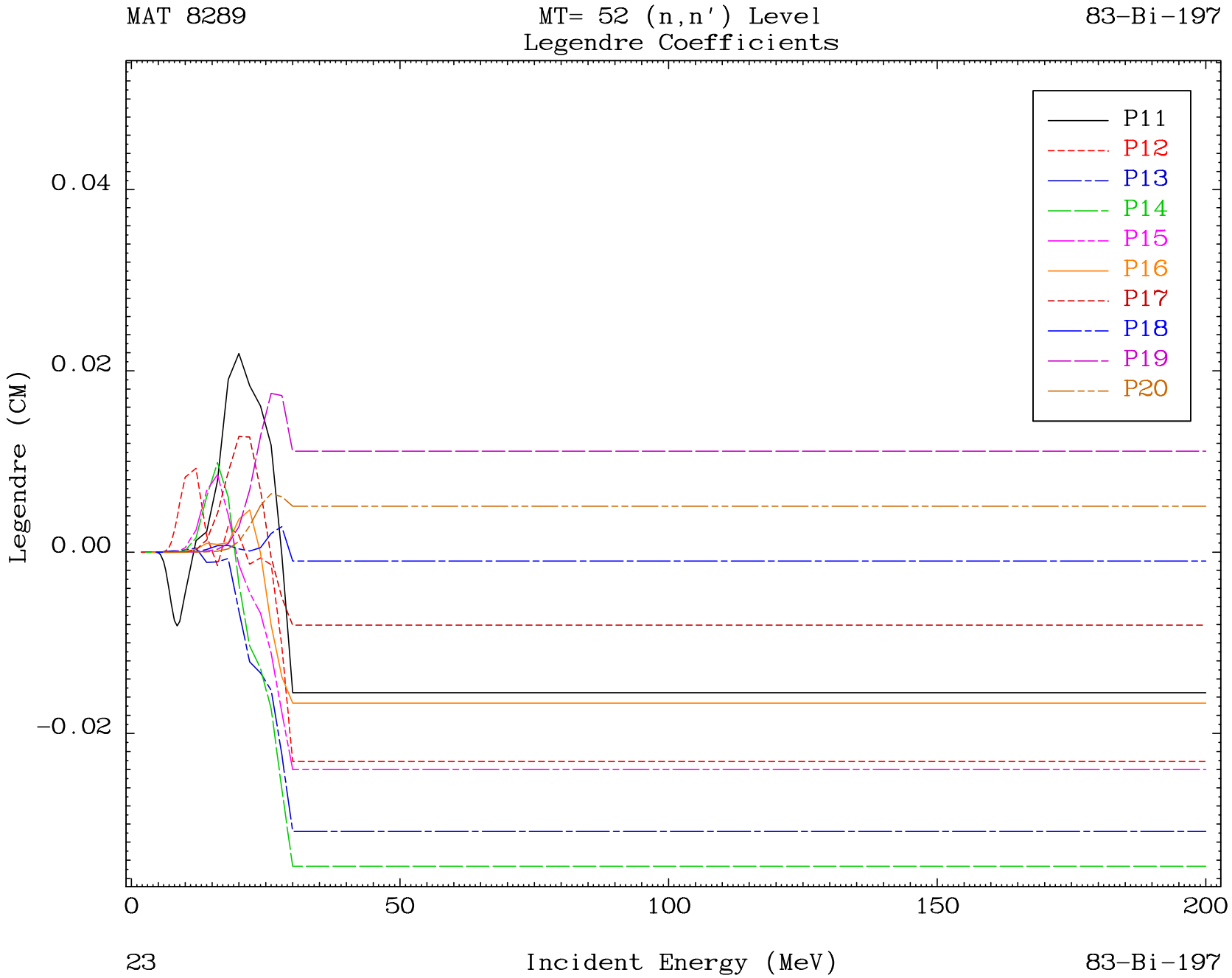

MAT 8289
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-197
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
Incident Energy (MeV)
18
83-Bi-197
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

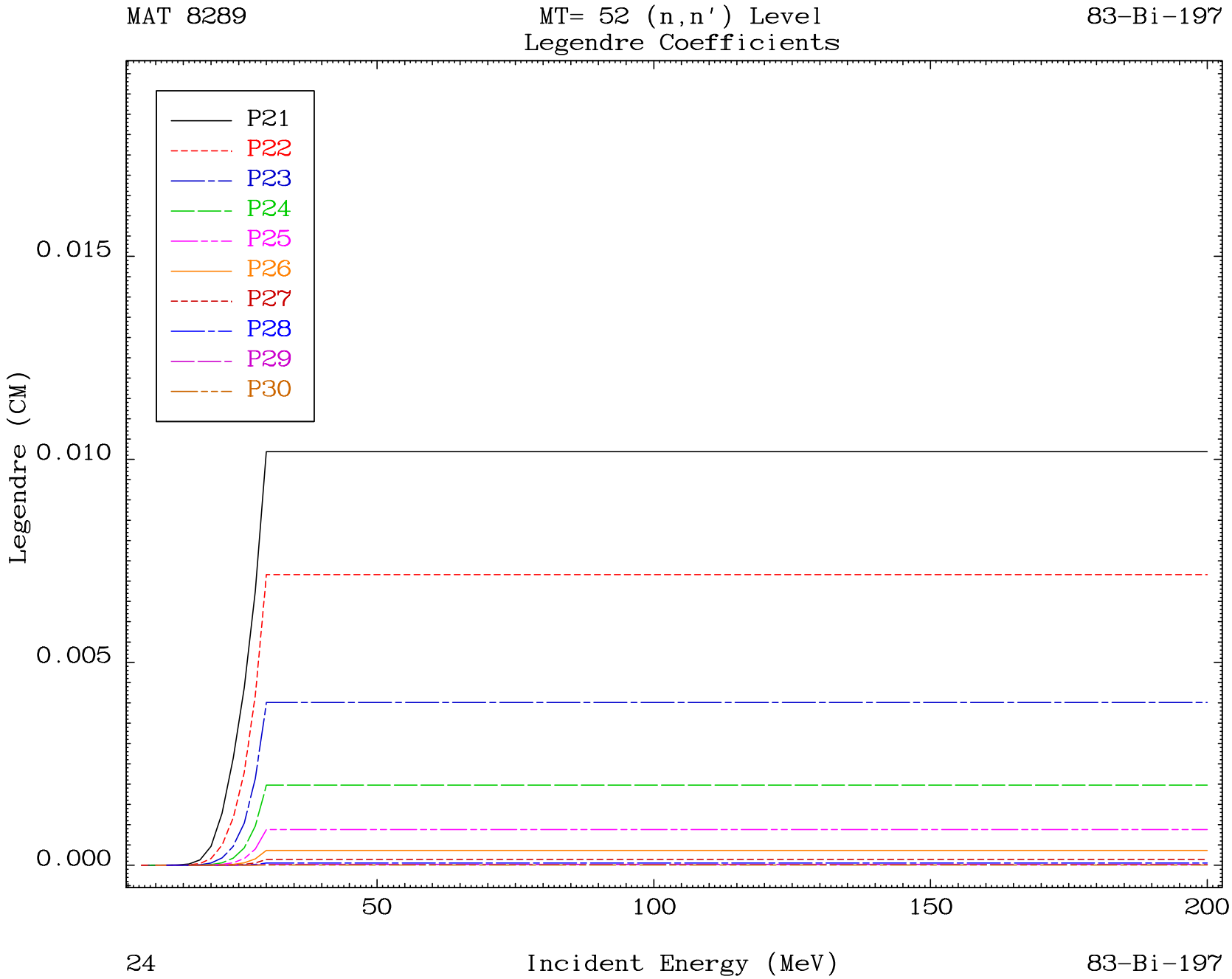

MAT 8289
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-197
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.03
0.02
0.01
0.00
-0.01
Legendre (CM)
0
50
100
150
200
19
Incident Energy (MeV)
83-Bi-197

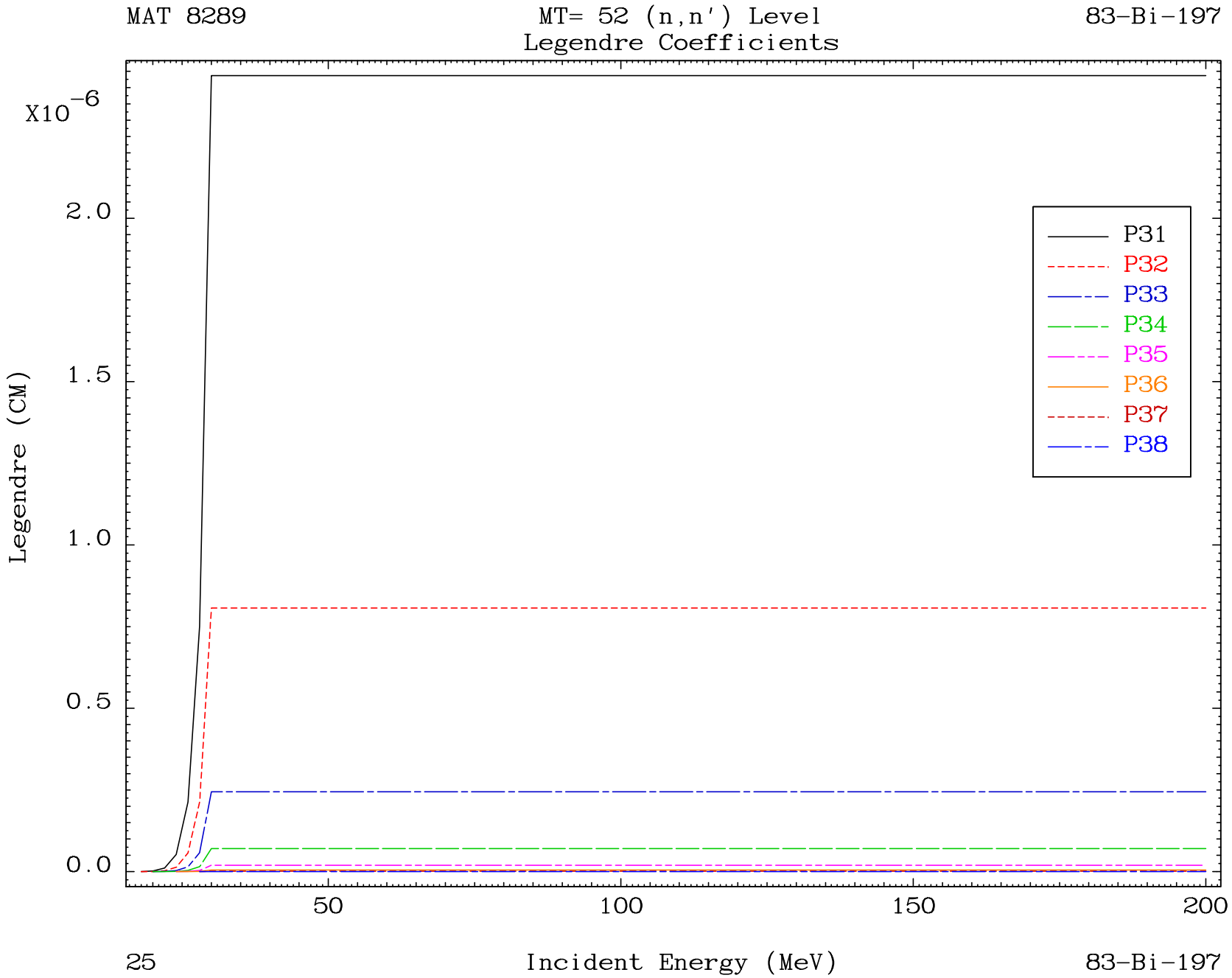

MAT 8289
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-197
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.000
0.000
0.000
0.000
Legendre (CM)
20
50
100
150
200
Incident Energy (MeV)
83-Bi-197

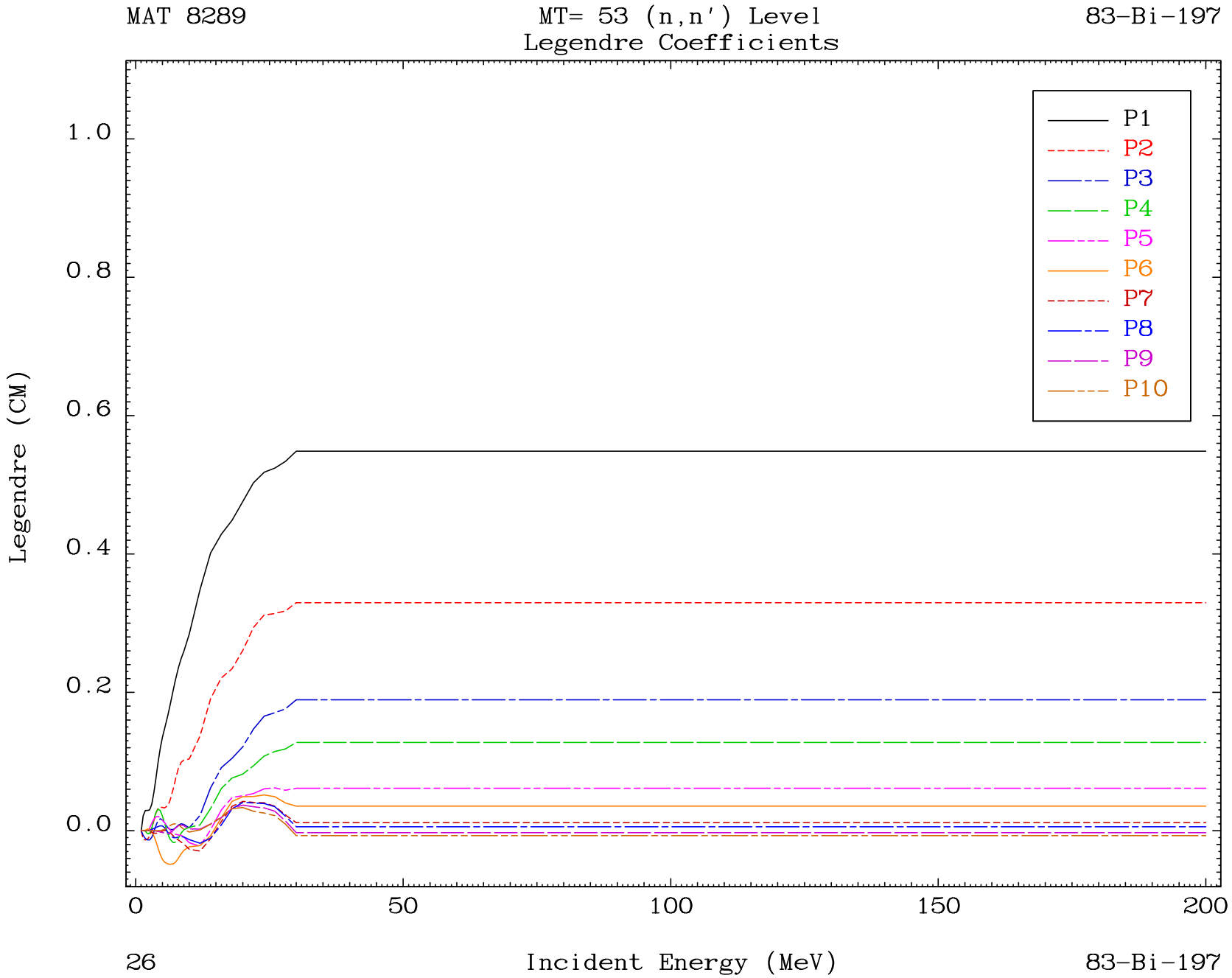

MAT 8289
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-197
1.5
X10−6
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
21
Incident Energy (MeV)
83-Bi-197

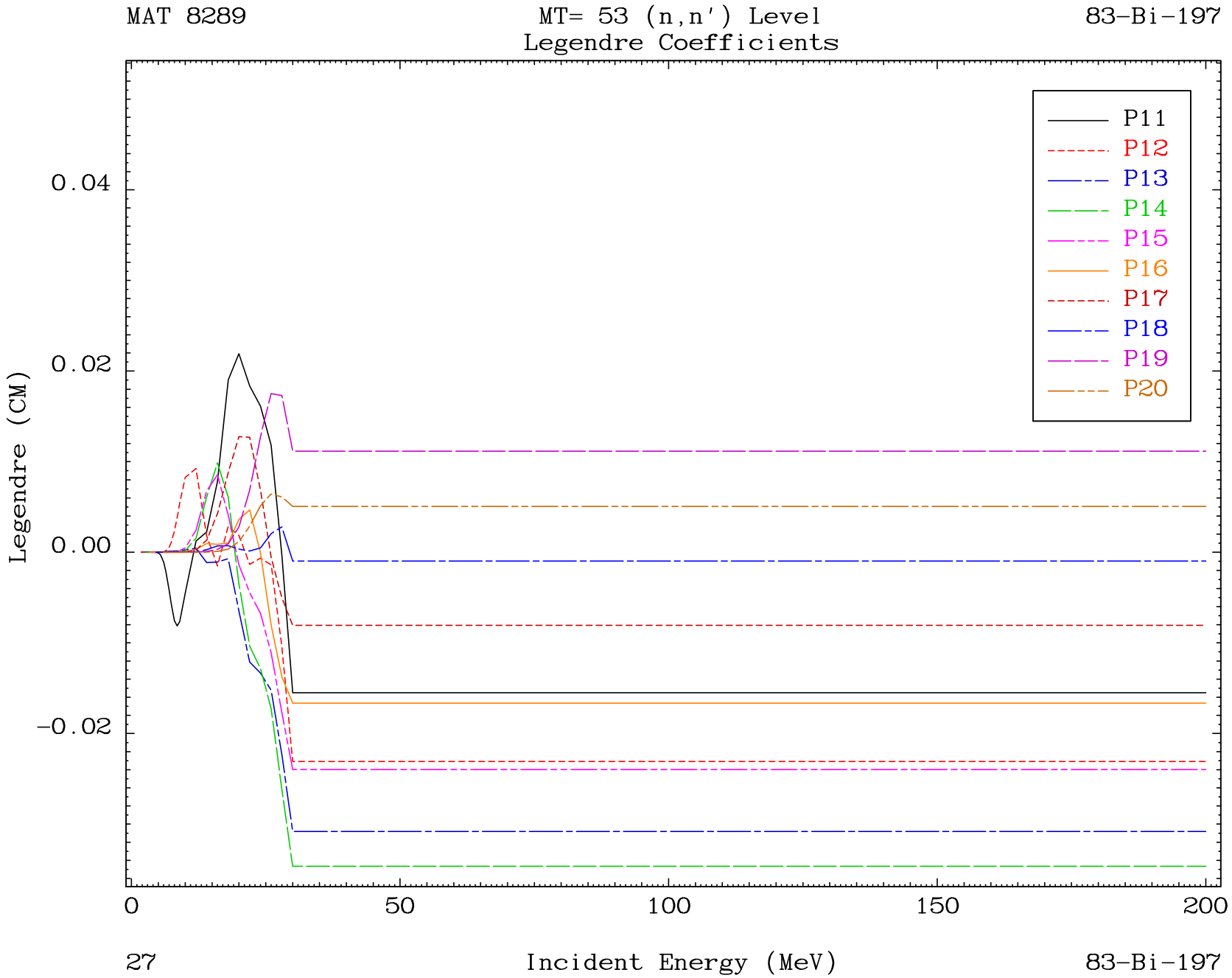

MAT 8289
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-197
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
Legendre (CM)
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
22
Incident Energy (MeV)
83-Bi-197

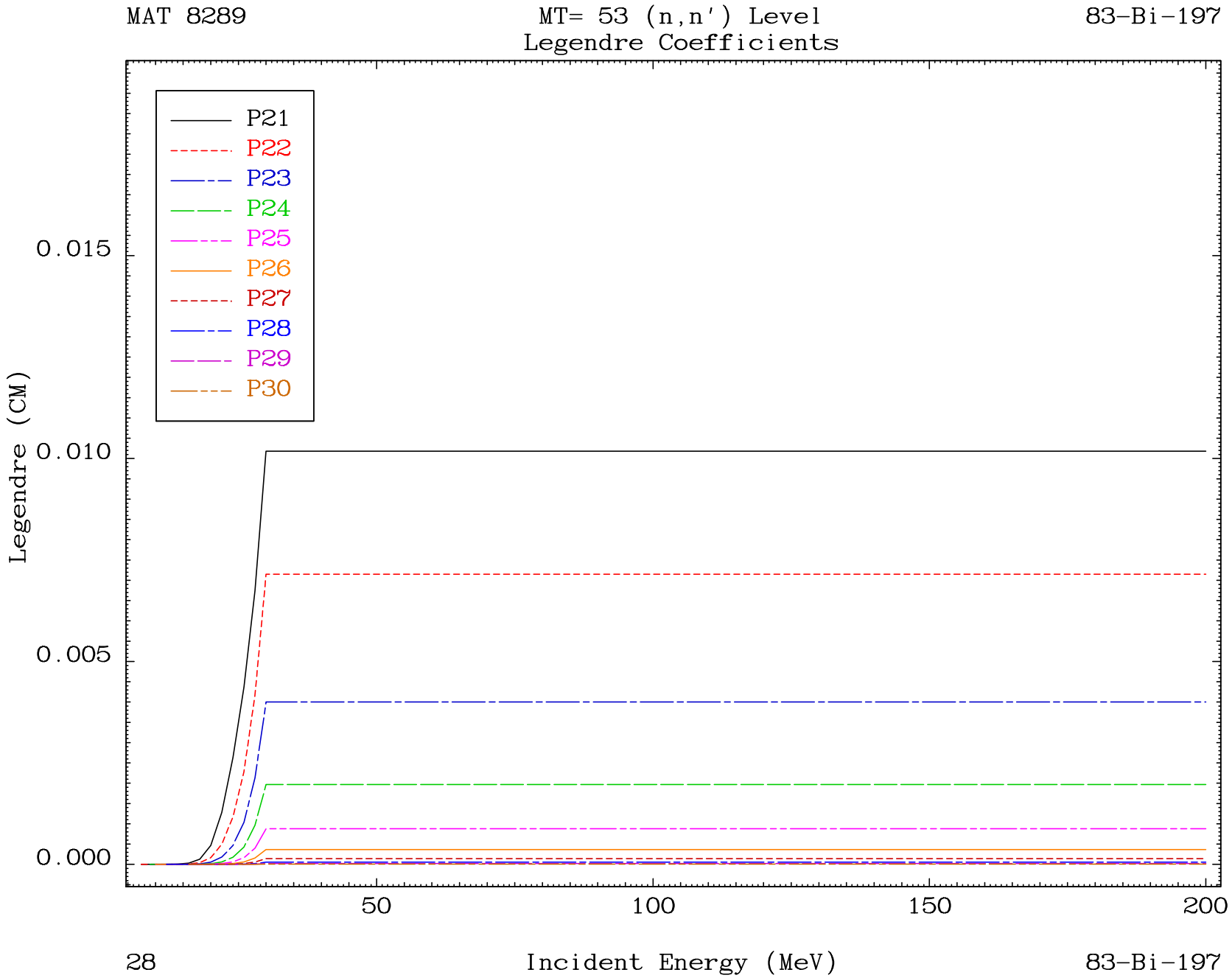

MAT 8289
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-197
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
23
Incident Energy (MeV)
83-Bi-197

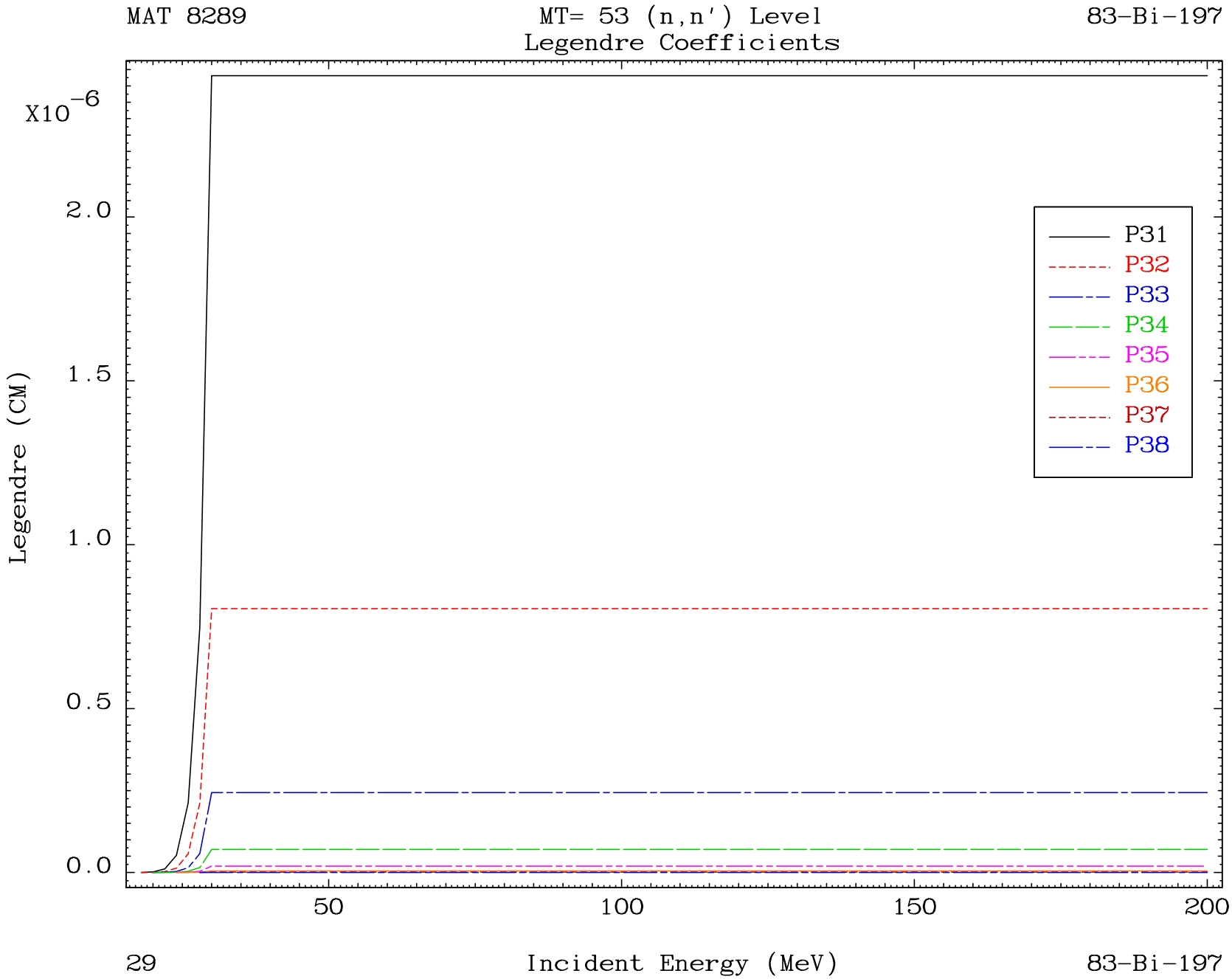

MAT 8289
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-197
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
24
Incident Energy (MeV)
83-Bi-197

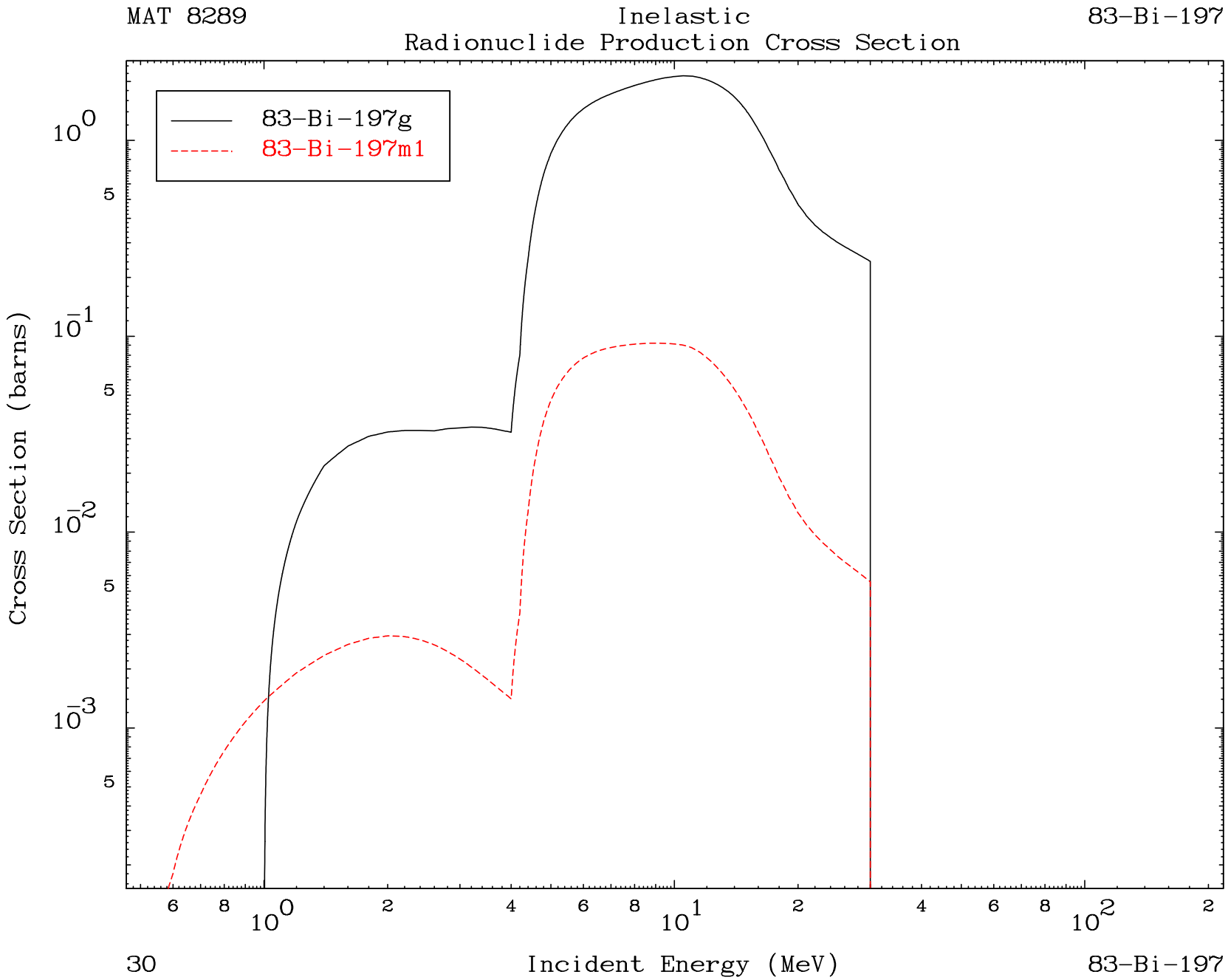

MAT 8289
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-197
X10^-6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
25
Incident Energy (MeV)
83-Bi-197

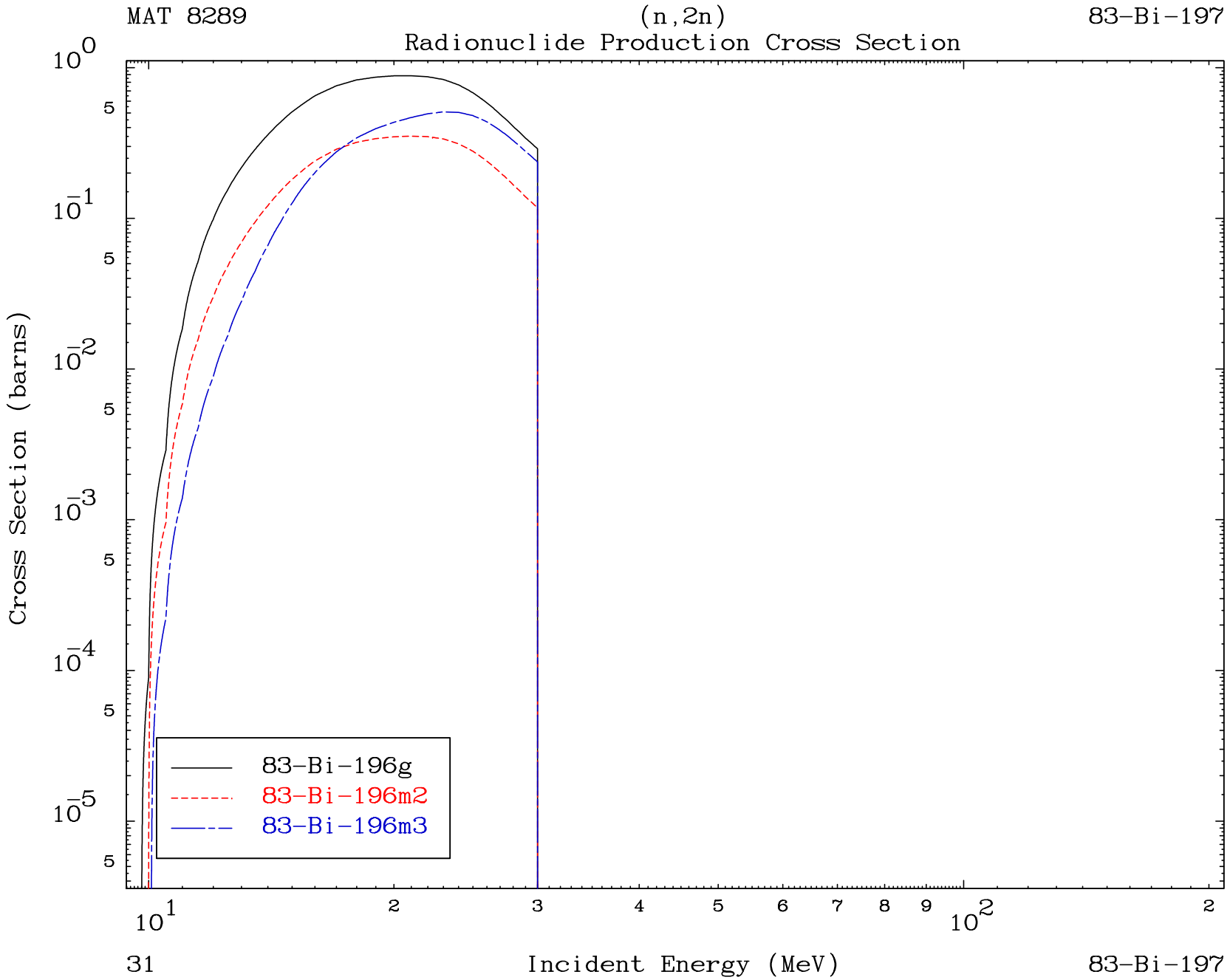

MAT 8289
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-197
Legendre (CM)
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
26
Incident Energy (MeV)
83-Bi-197

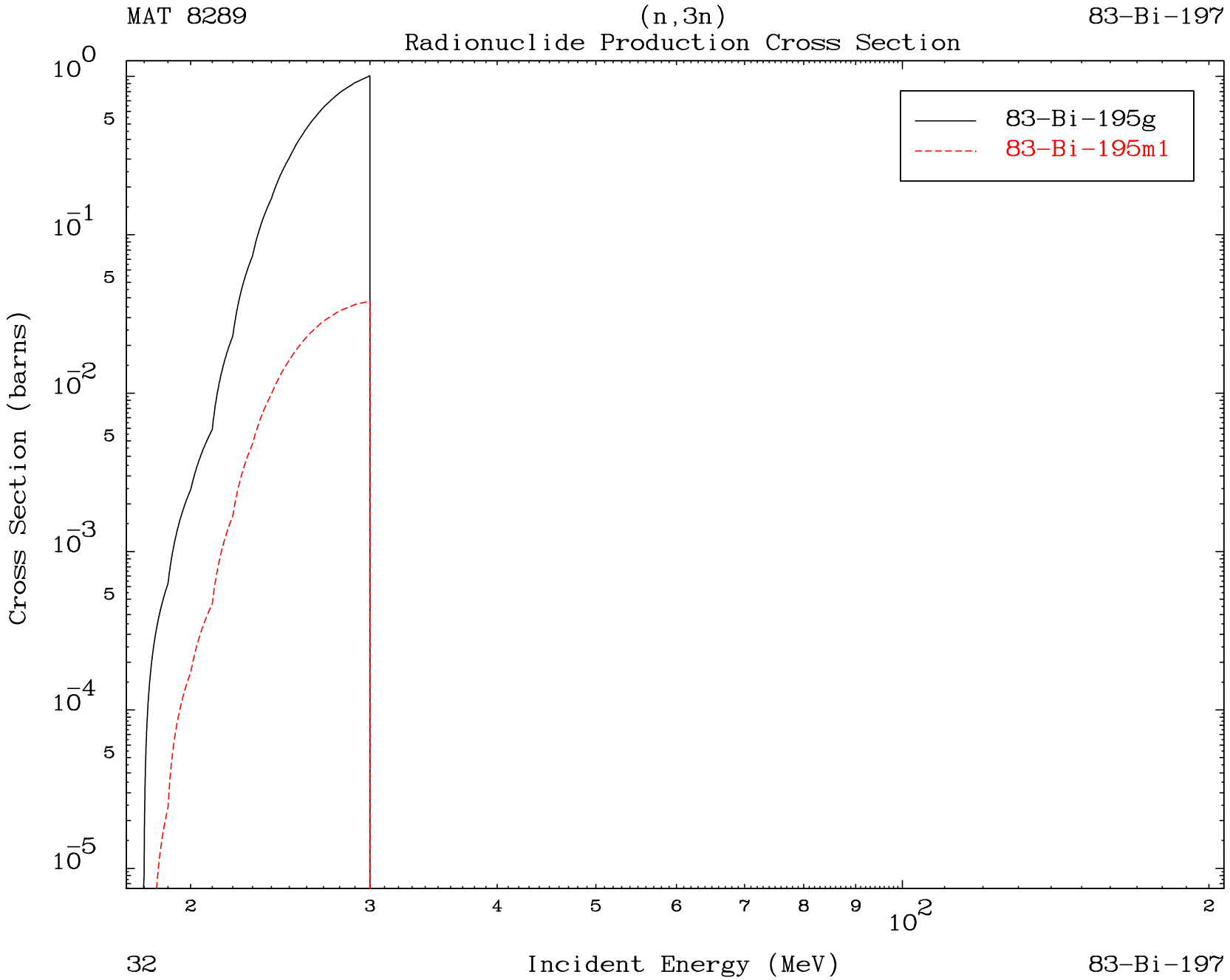

MAT 8289
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-197
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
27
Incident Energy (MeV)
83-Bi-197

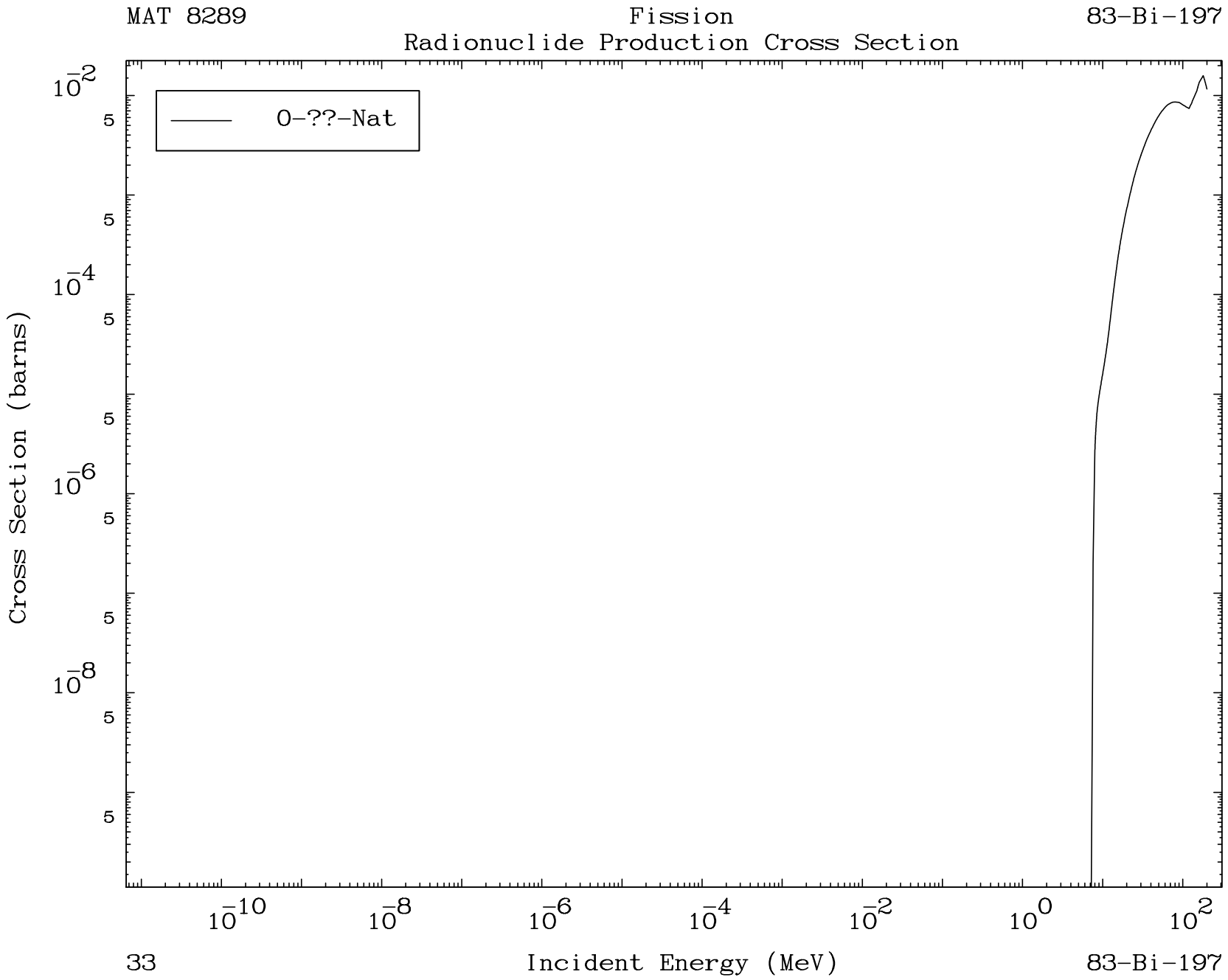

MAT 8289
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-197
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
28
Incident Energy (MeV)
83-Bi-197

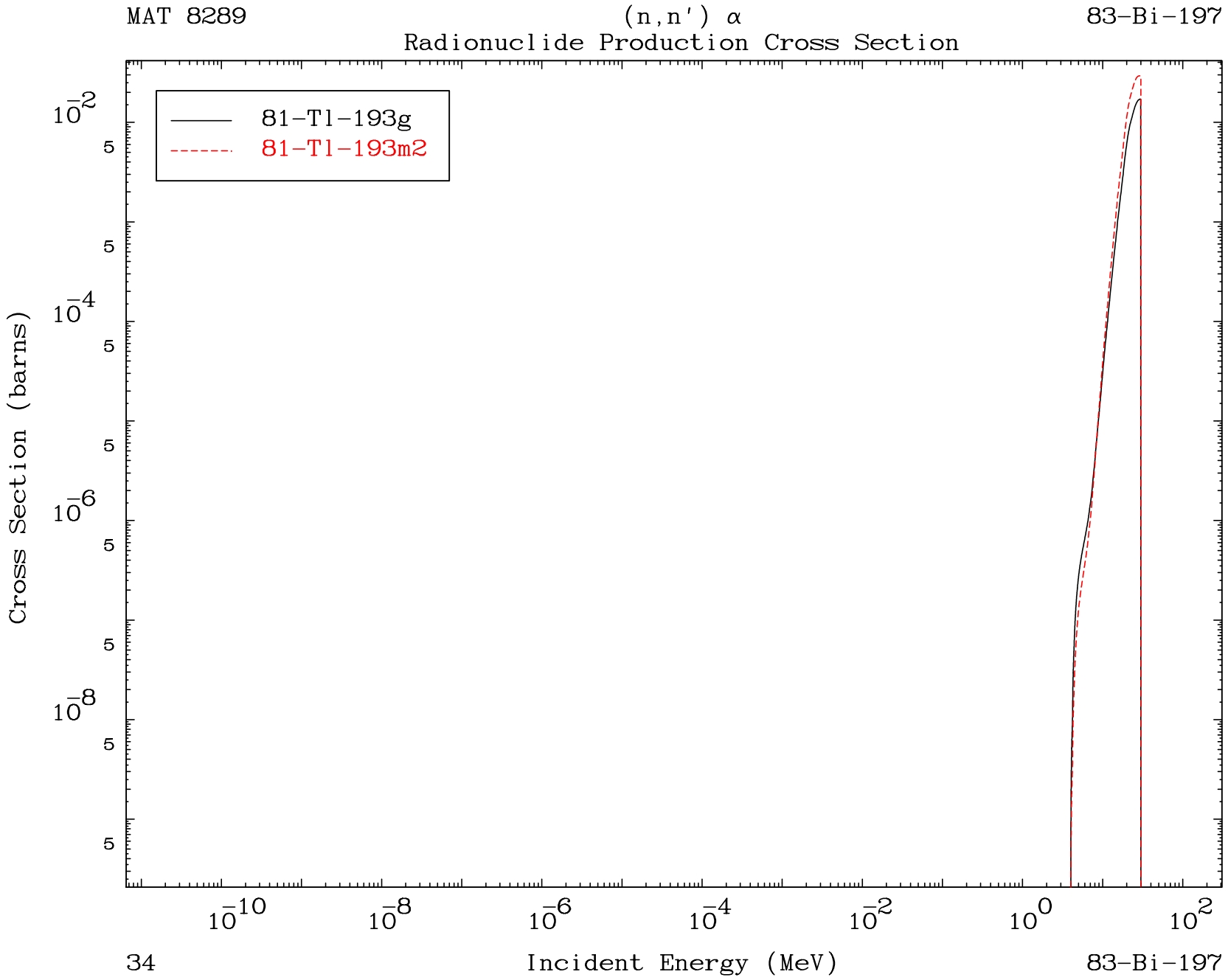

MAT 8289
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-197
X10^-6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
29
Incident Energy (MeV)
83-Bi-197

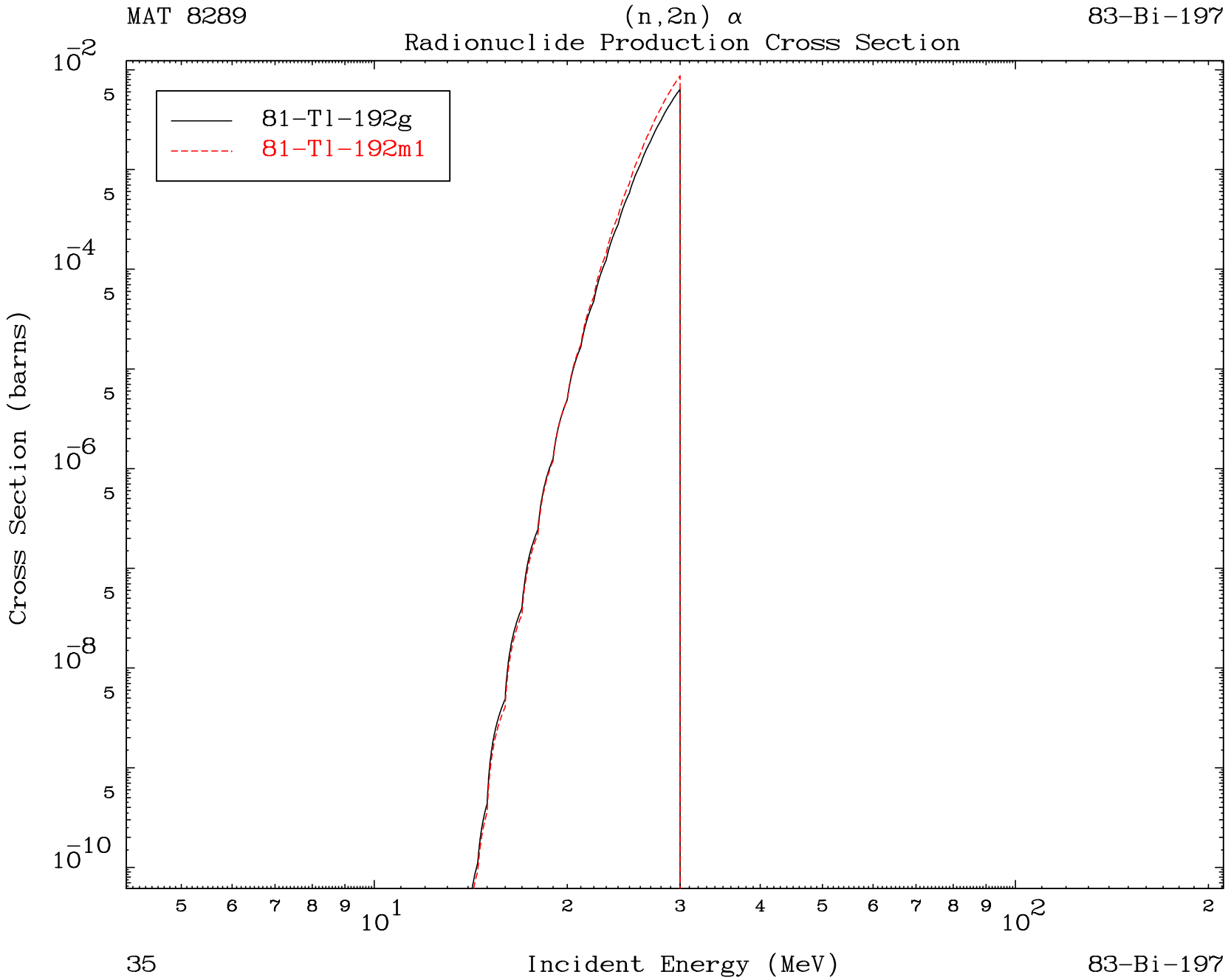

MAT 8289
Inelastic
83-Bi-197
Radionuclide Production Cross Section
83-Bi-197g
83-Bi-197m1
Cross Section (barns)
Incident Energy (MeV)
30
83-Bi-197

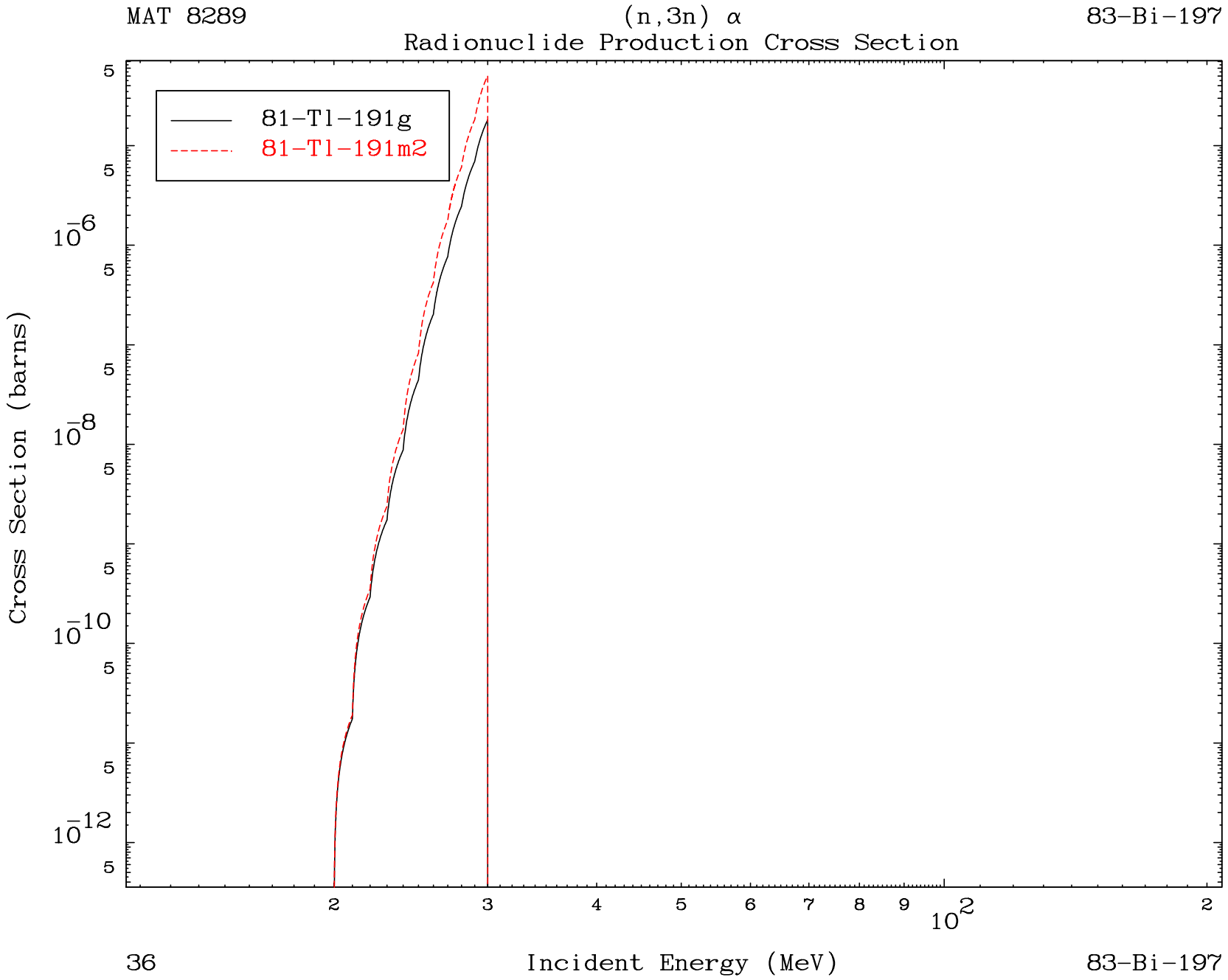

MAT 8289
(n,2n)
83-Bi-197
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
83-Bi-196g
83-Bi-196m2
83-Bi-196m3
31
83-Bi-197

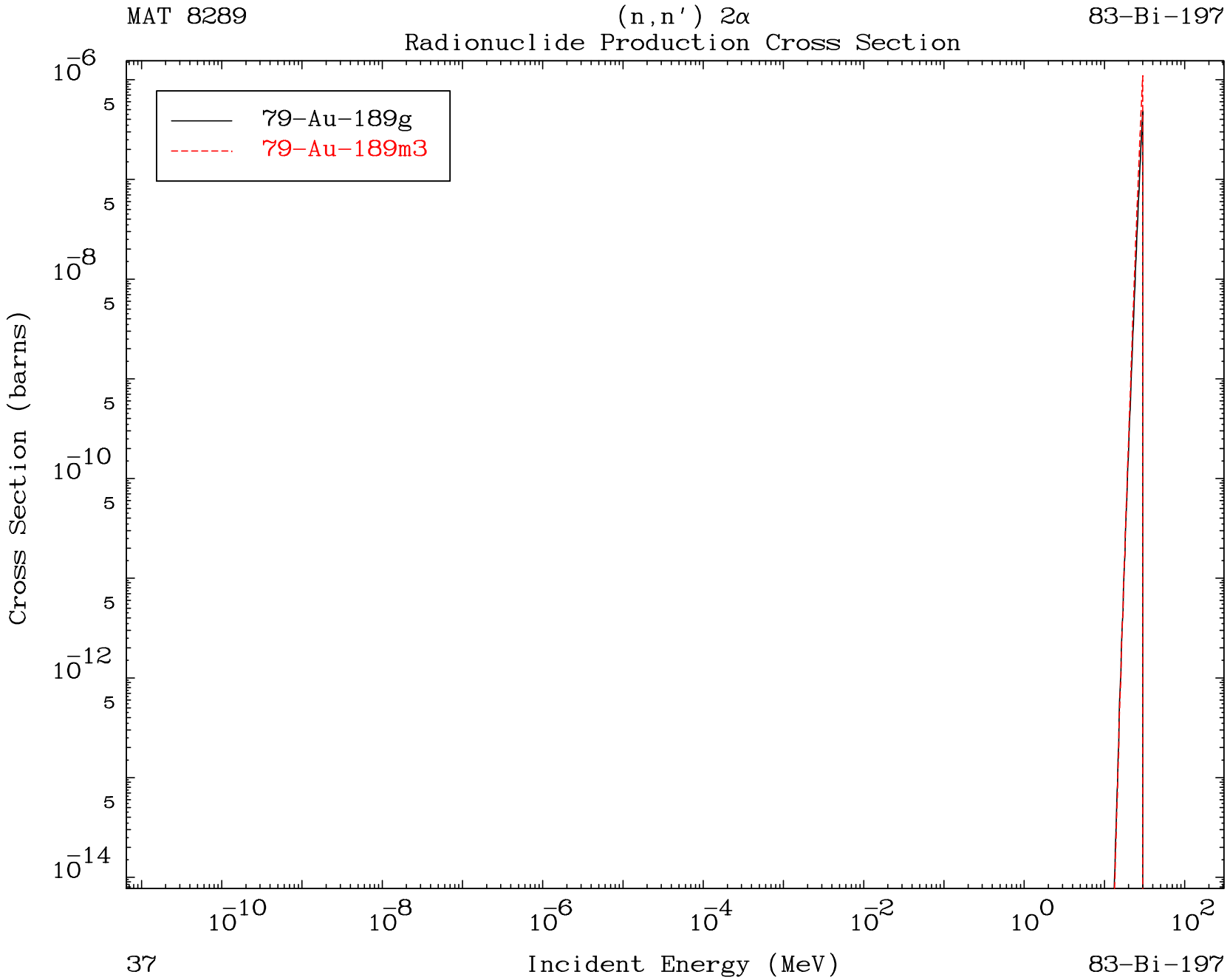

MAT 8289
(n,3n)
83-Bi-197
Radionuclide Production Cross Section
83-Bi-195g
83-Bi-195m1
Cross Section (barns)
Incident Energy (MeV)
32
83-Bi-197

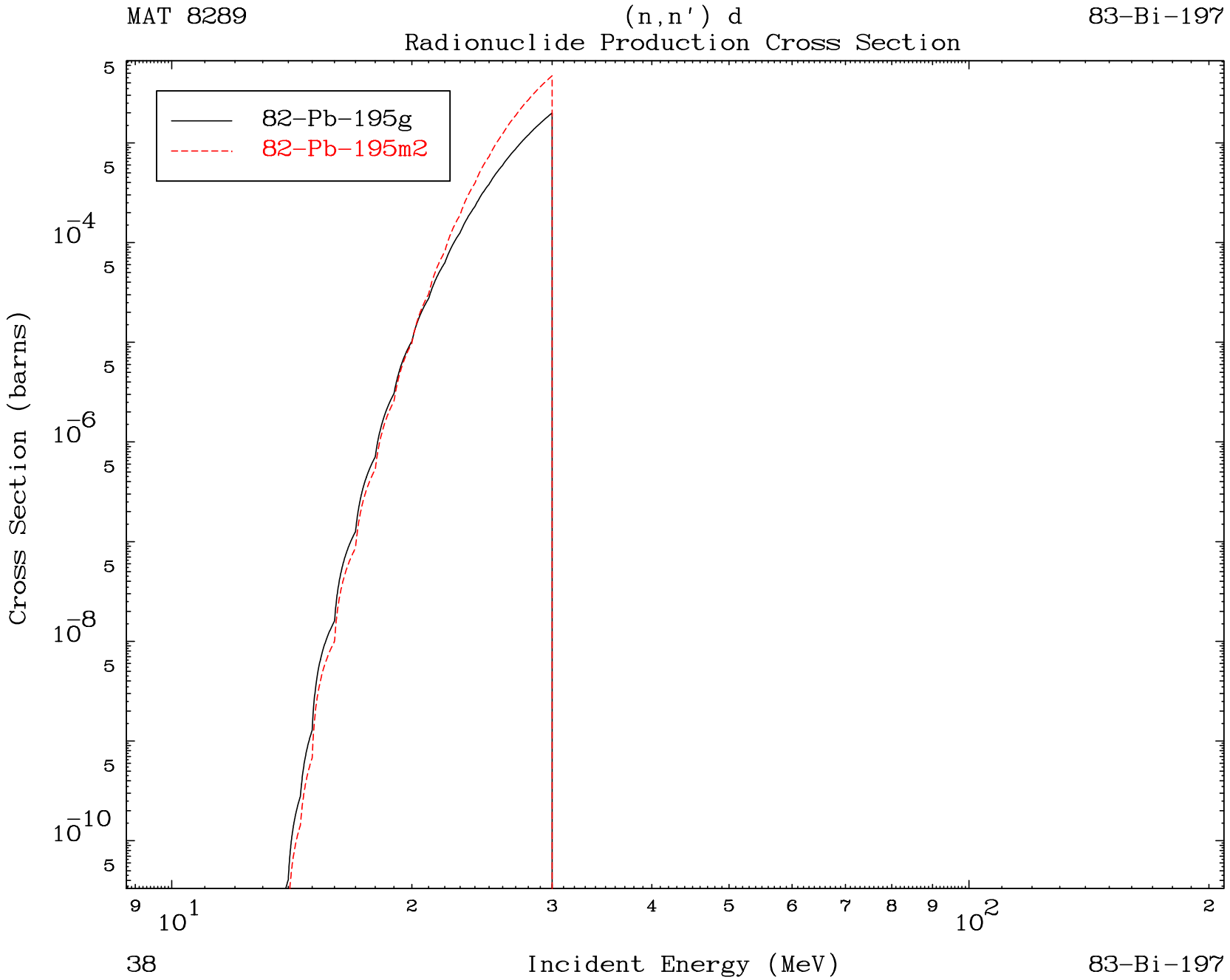

MAT 8289
Fission
83-Bi-197
Radionuclide Production Cross Section
0-??-Nat
Cross Section (barns)
10-2
5
10-4
5
10-6
5
10-8
5
10-10
10-8
10-6
10-4
10-2
100
102
33
Incident Energy (MeV)
83-Bi-197

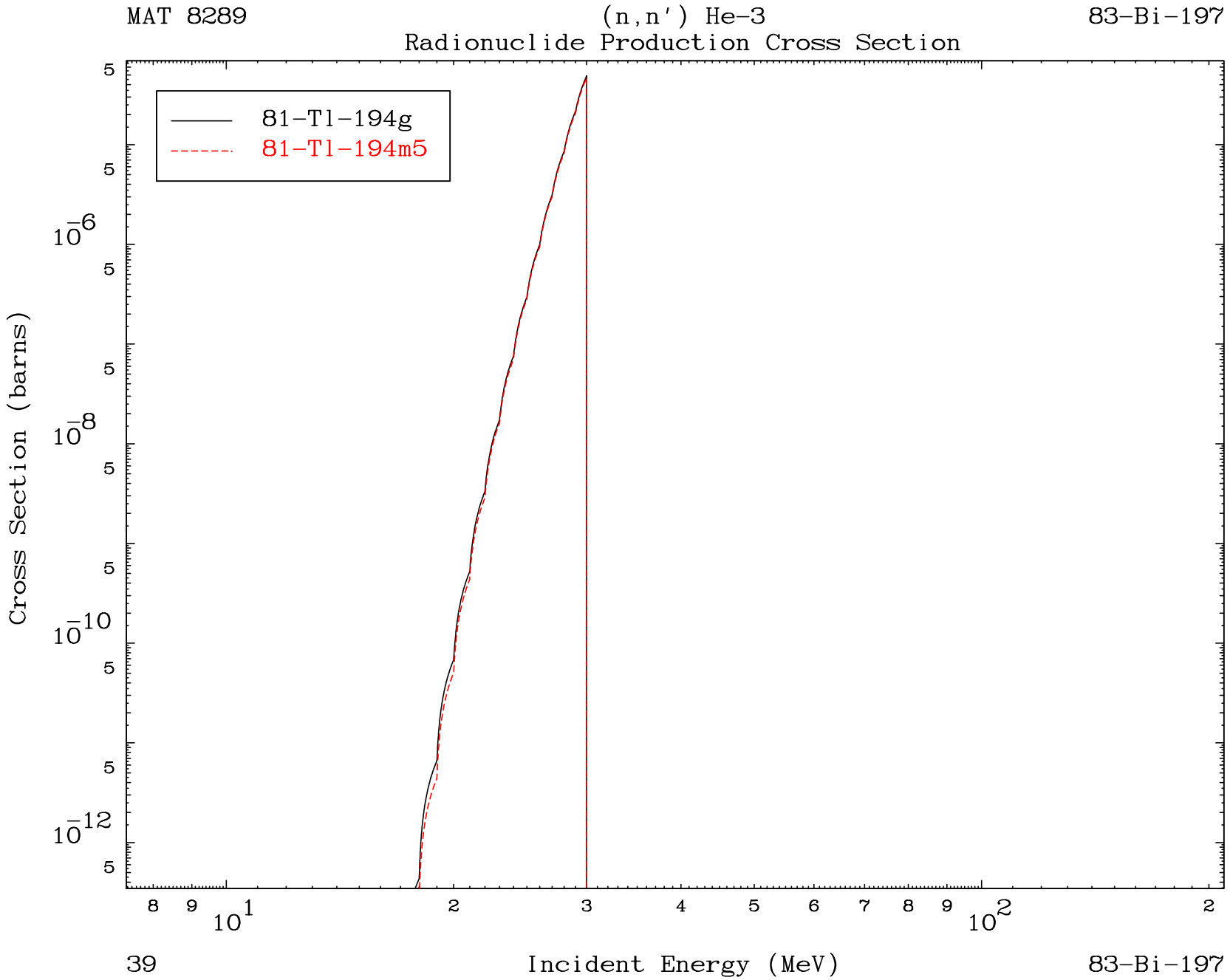

MAT 8289
(n,n') α
83-Bi-197
Radionuclide Production Cross Section
81-Tl-193g
81-Tl-193m2
Cross Section (barns)
Incident Energy (MeV)
34
83-Bi-197

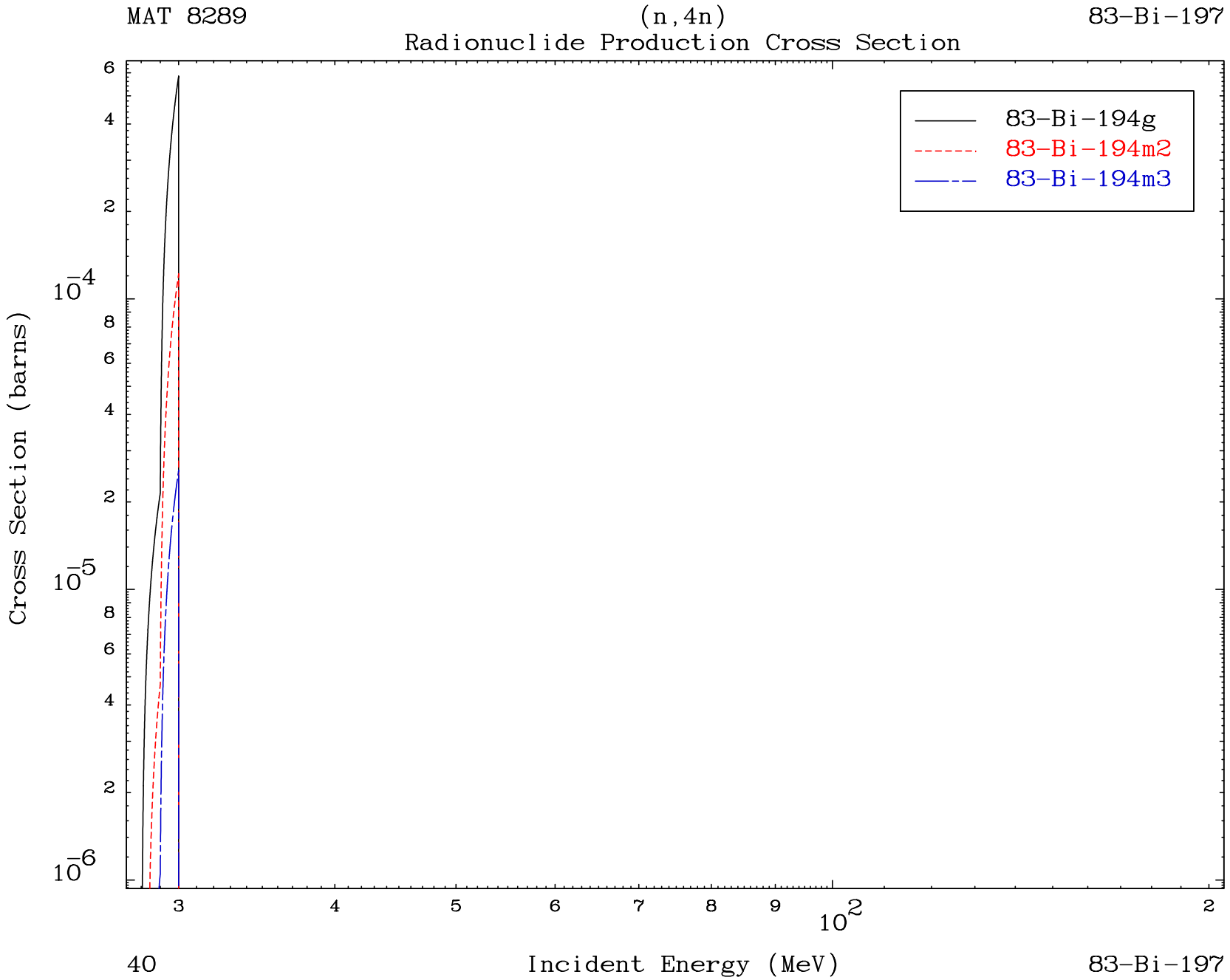

MAT 8289
(n,2n) α
83-Bi-197
Radionuclide Production Cross Section
81-Tl-192g
81-Tl-192m1
Cross Section (barns)
Incident Energy (MeV)
35
83-Bi-197

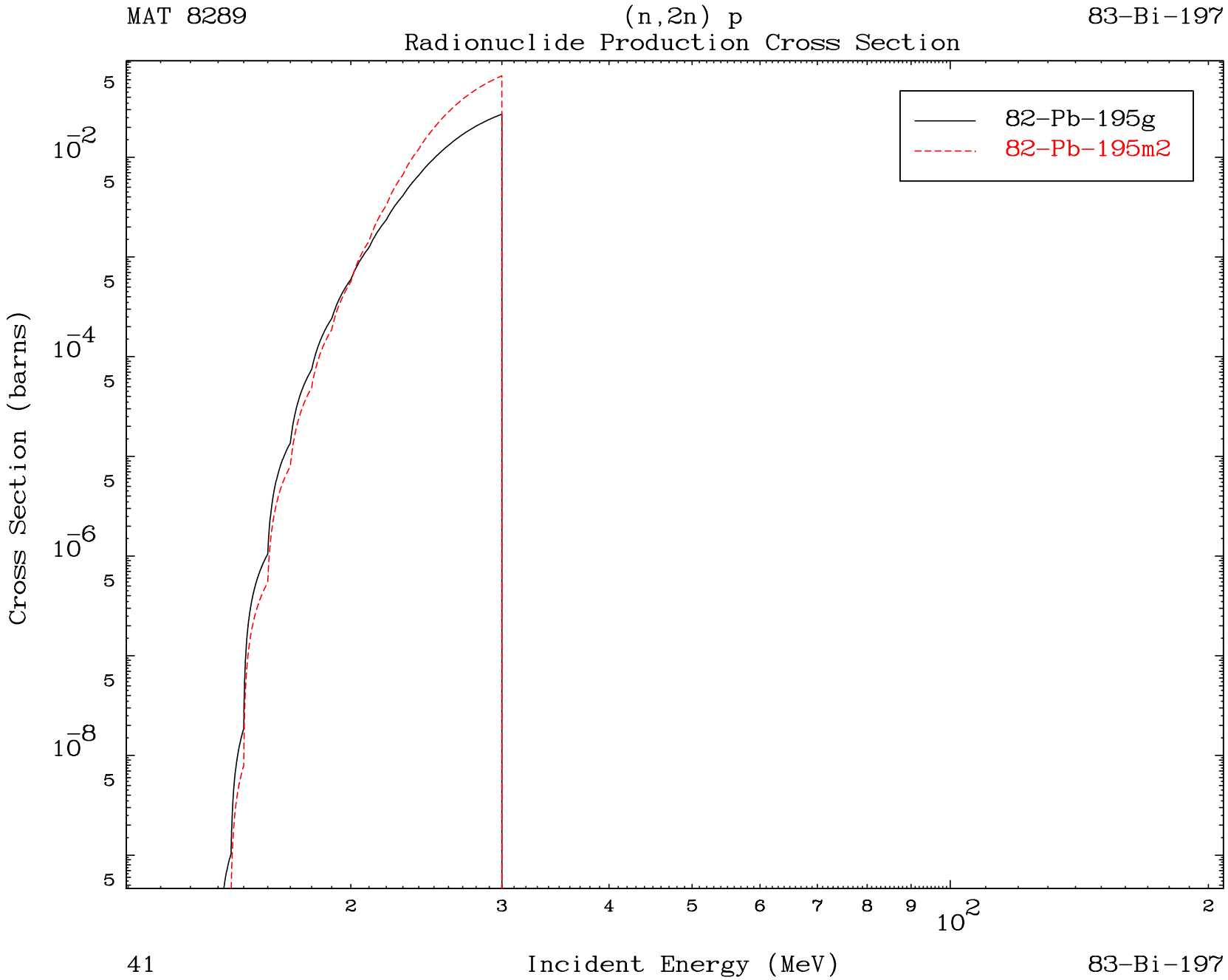

MAT 8289
(n,3n) α
83-Bi-197
Radionuclide Production Cross Section
81-Tl-191g
81-Tl-191m2
Cross Section (barns)
10-6
10-8
10-10
10-12
5
2
3
4
5
6
7
8
9
10 2
2
36
Incident Energy (MeV)
83-Bi-197

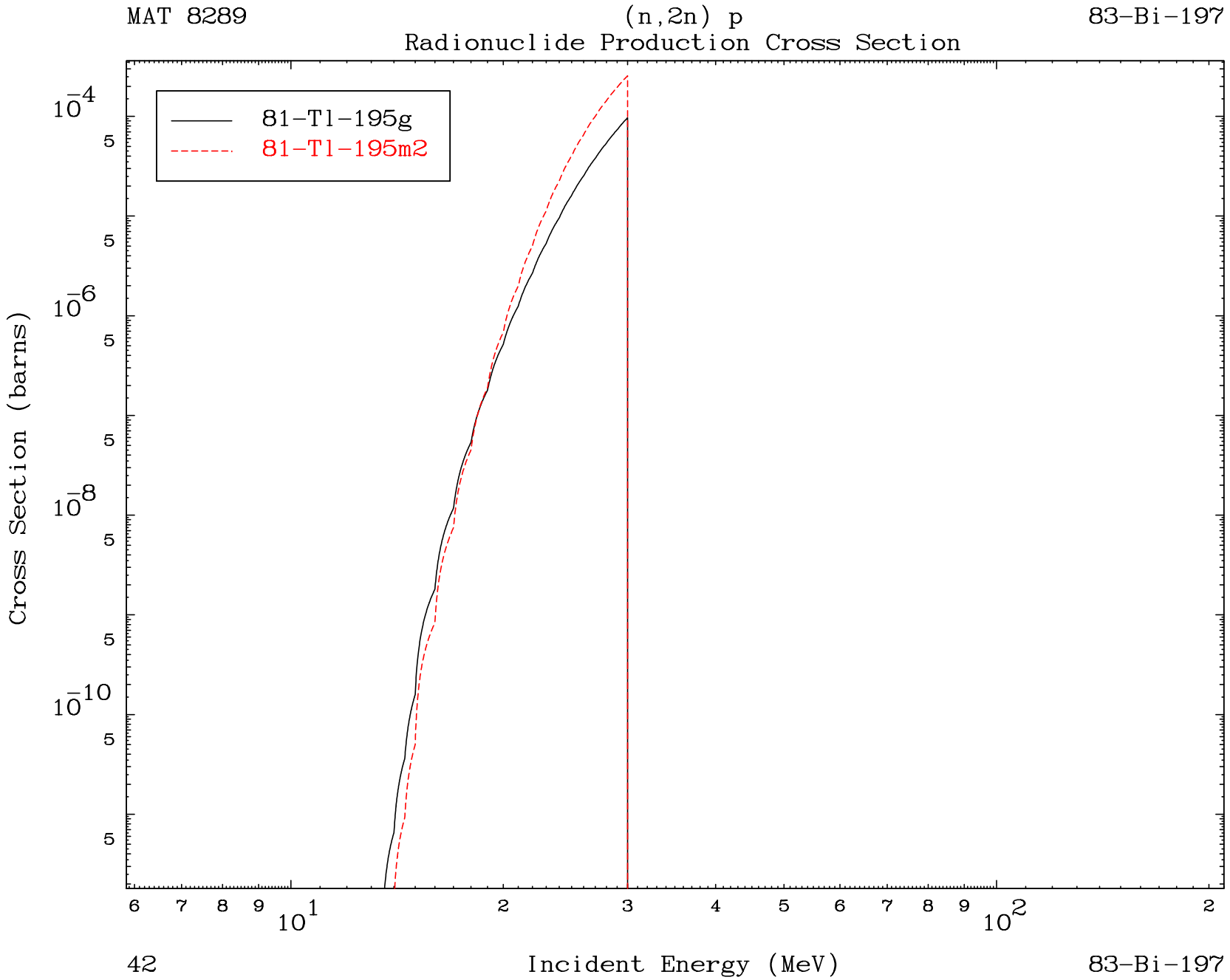

MAT 8289
(n,n') 2α
83-Bi-197
Radionuclide Production Cross Section
79-Au-189g
79-Au-189m3
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
10^-14
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
37
Incident Energy (MeV)
83-Bi-197

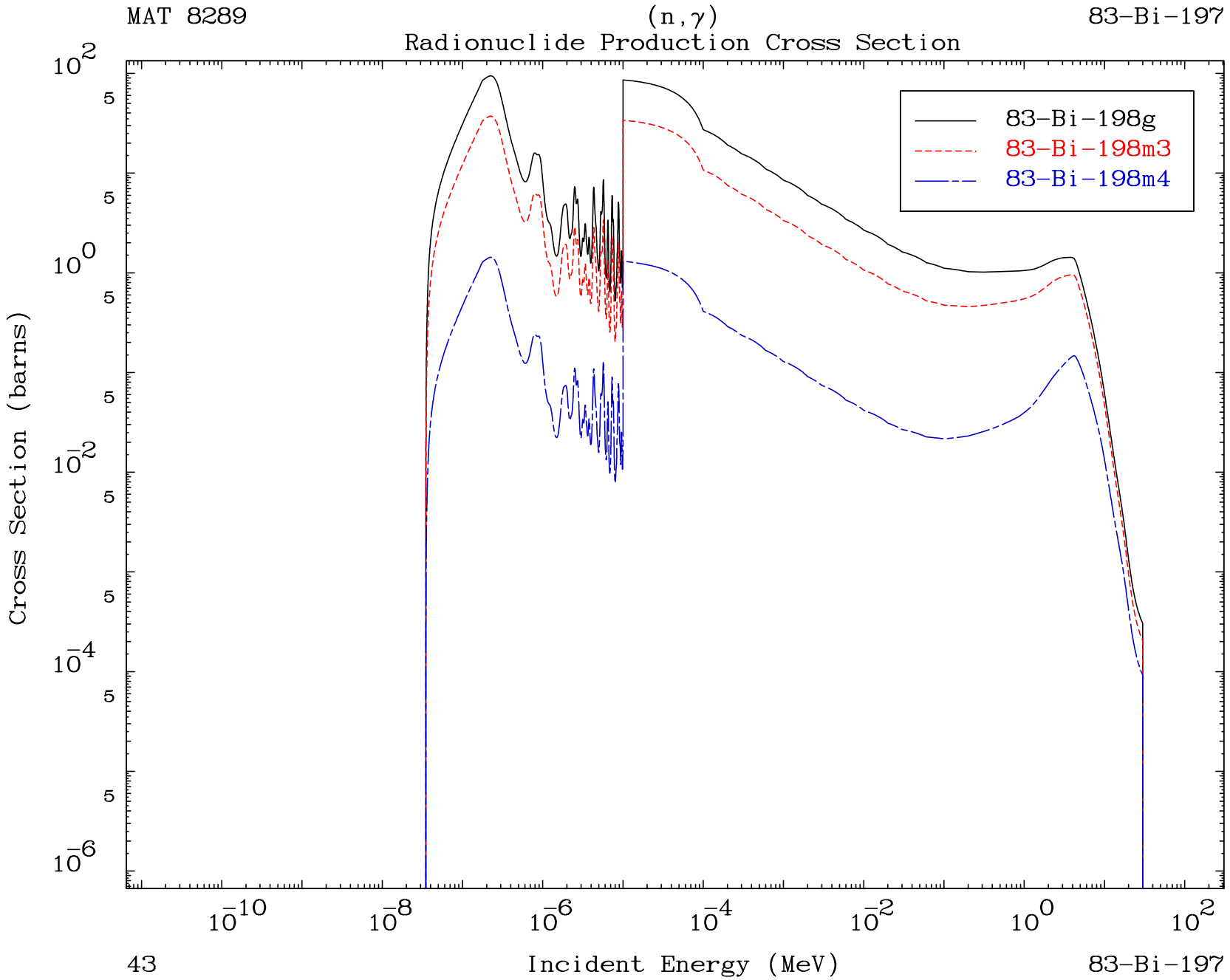

MAT 8289
(n,n') d
83-Bi-197
Radionuclide Production Cross Section
82-Pb-195g
82-Pb-195m2
Cross Section (barns)
10-4
10-6
10-8
10-10
10 1
2
3
4
5
6
7
8
9
10 2
2
38
Incident Energy (MeV)
83-Bi-197

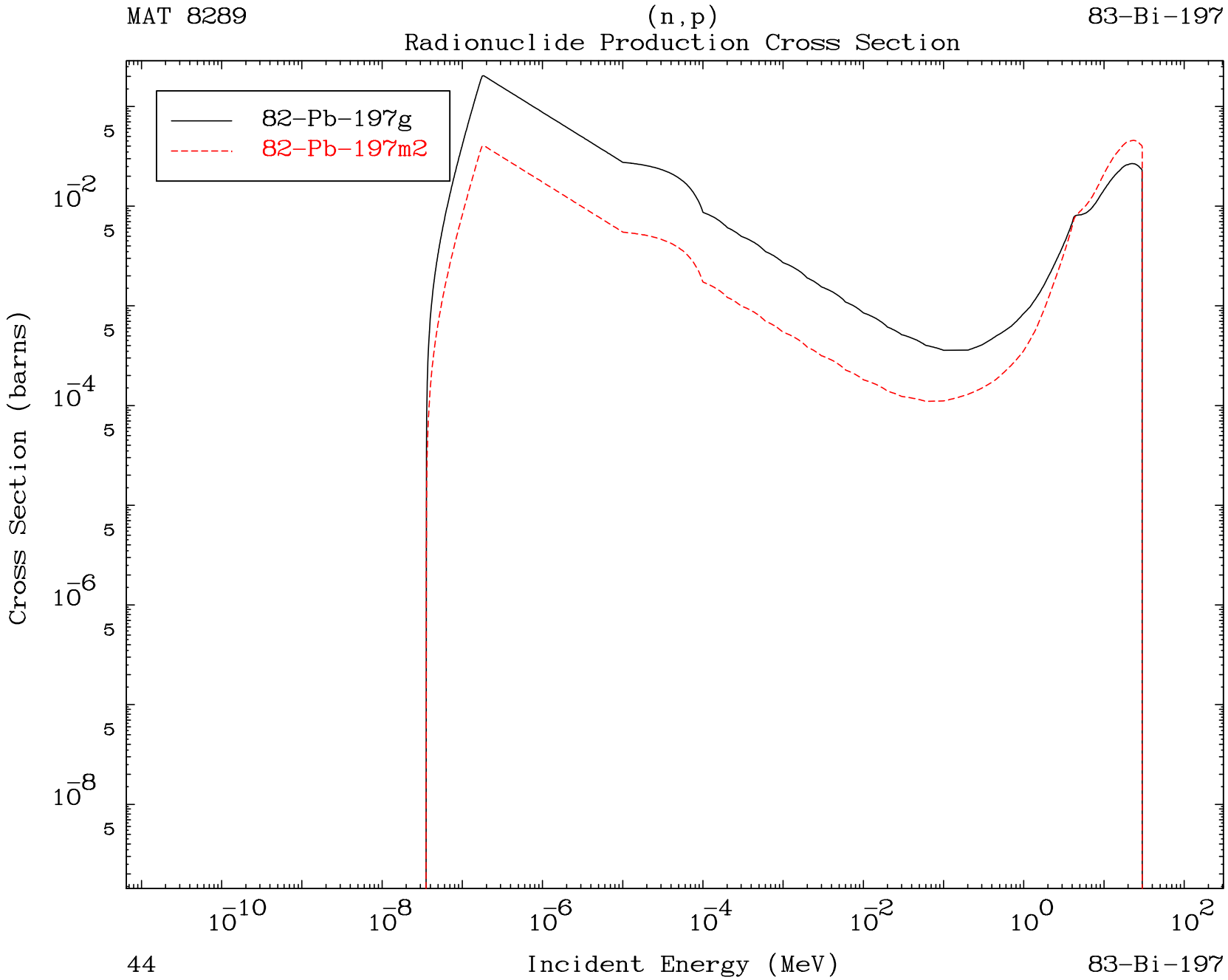

MAT 8289
(n,n') He-3
83-Bi-197
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
Incident Energy (MeV)
39
83-Bi-197

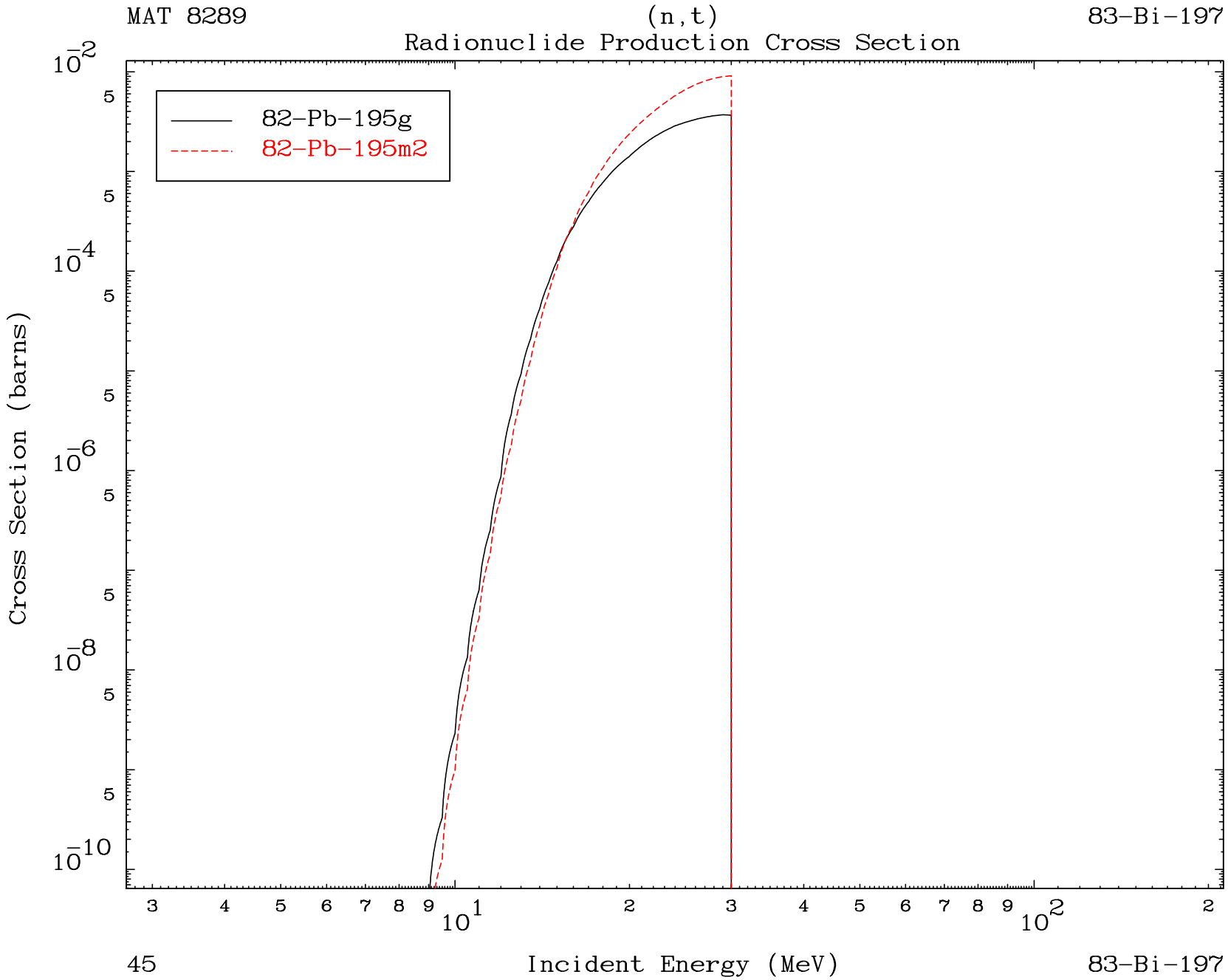

MAT 8289
(n,4n)
83-Bi-197
Radionuclide Production Cross Section
83-Bi-194g
83-Bi-194m2
83-Bi-194m3
Cross Section (barns)
Incident Energy (MeV)
40
83-Bi-197

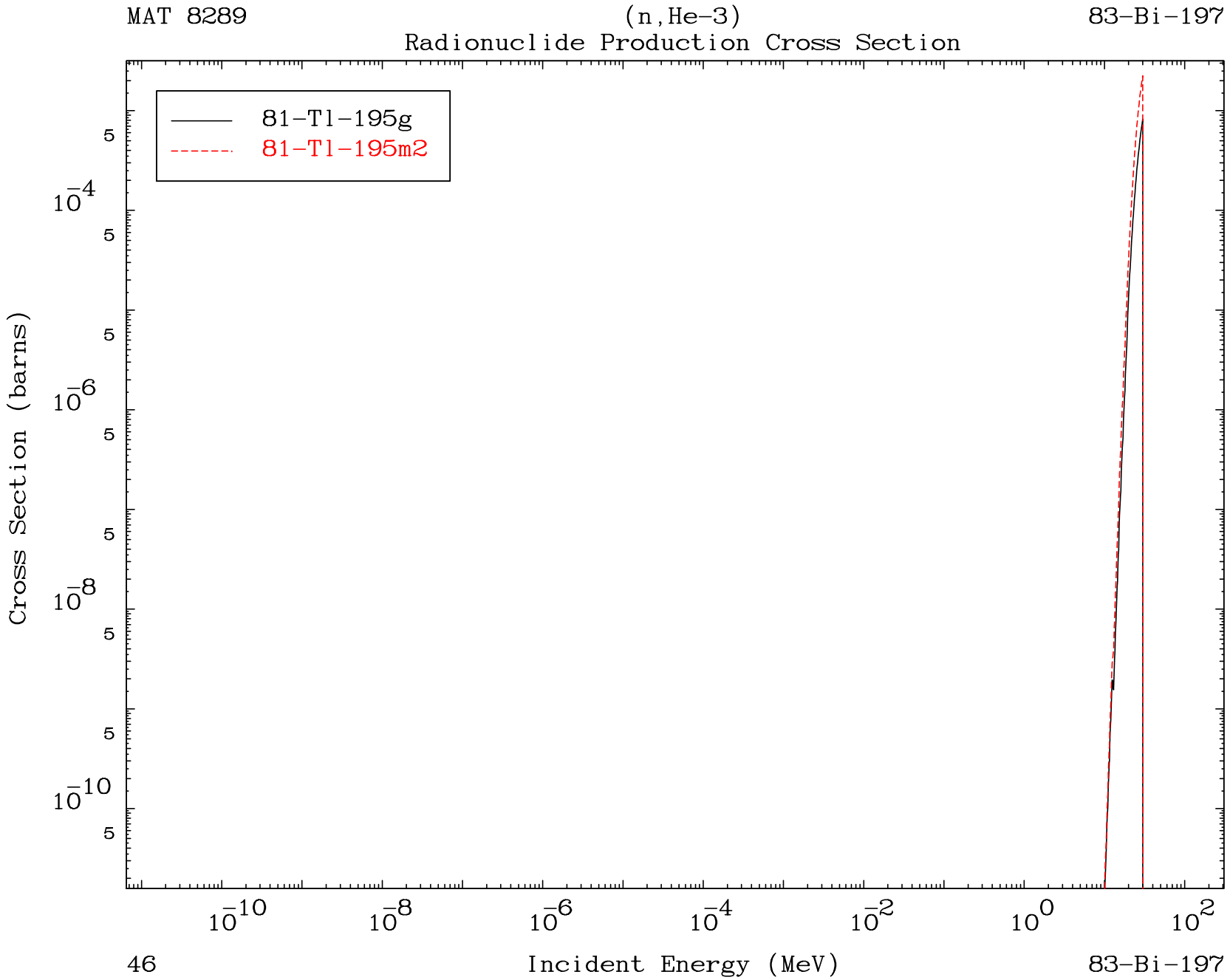

MAT 8289
(n,2n) p
83-Bi-197
Radionuclide Production Cross Section
82-Pb-195g
82-Pb-195m2
Cross Section (barns)
Incident Energy (MeV)
41
83-Bi-197

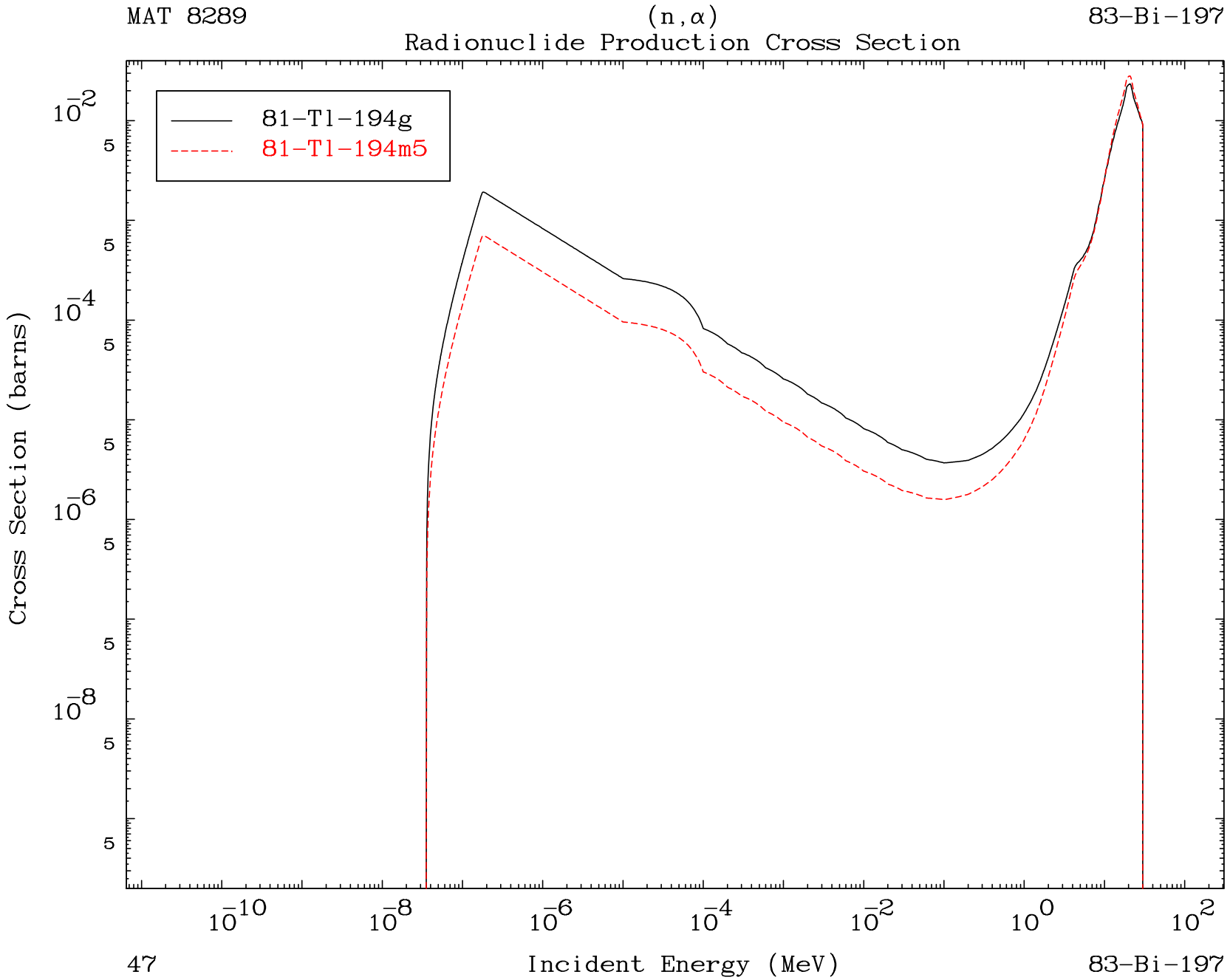

MAT 8289
(n,2n) p
83-Bi-197
Radionuclide Production Cross Section
81-Tl-195g
81-Tl-195m2
Cross Section (barns)
10-4
10-6
10-8
10-10
Incident Energy (MeV)
42
83-Bi-197

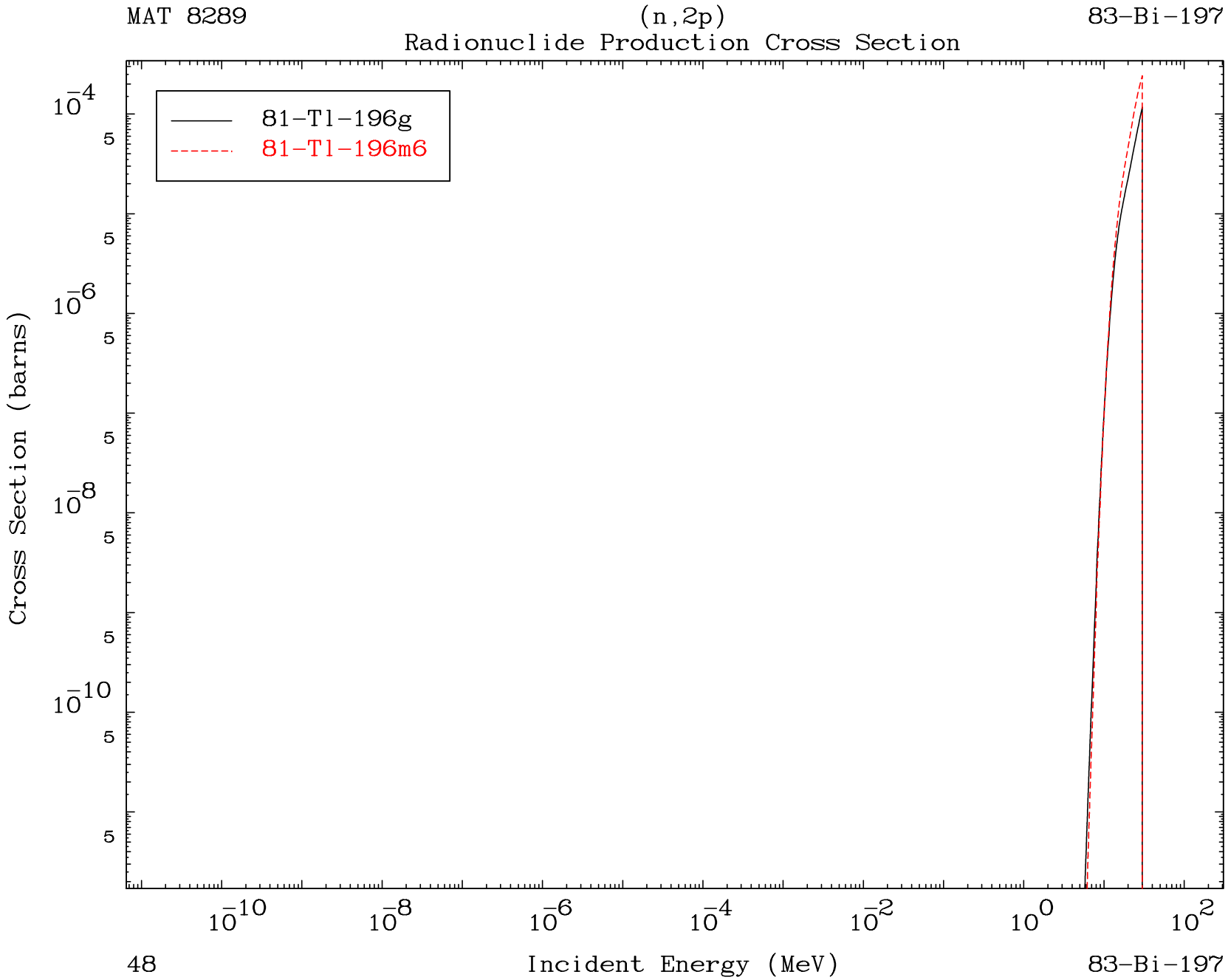

MAT 8289
(n,γ)
83-Bi-197
Radionuclide Production Cross Section
83-Bi-198g
83-Bi-198m3
83-Bi-198m4
Cross Section (barns)
Incident Energy (MeV)
43
83-Bi-197

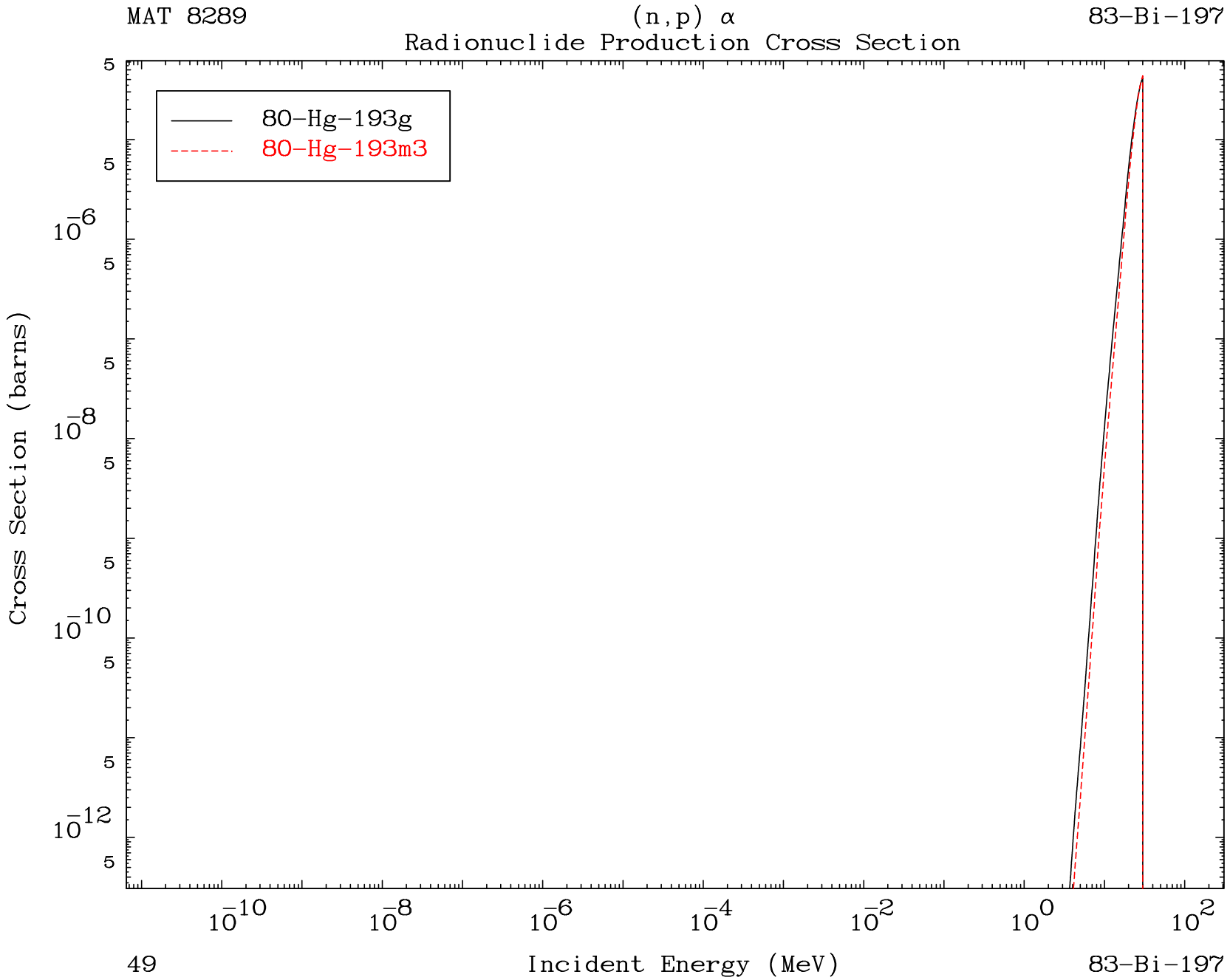

MAT 8289
(n,p)
83-Bi-197
Radionuclide Production Cross Section
82-Pb-197g
82-Pb-197m2
Cross Section (barns)
Incident Energy (MeV)
44
83-Bi-197

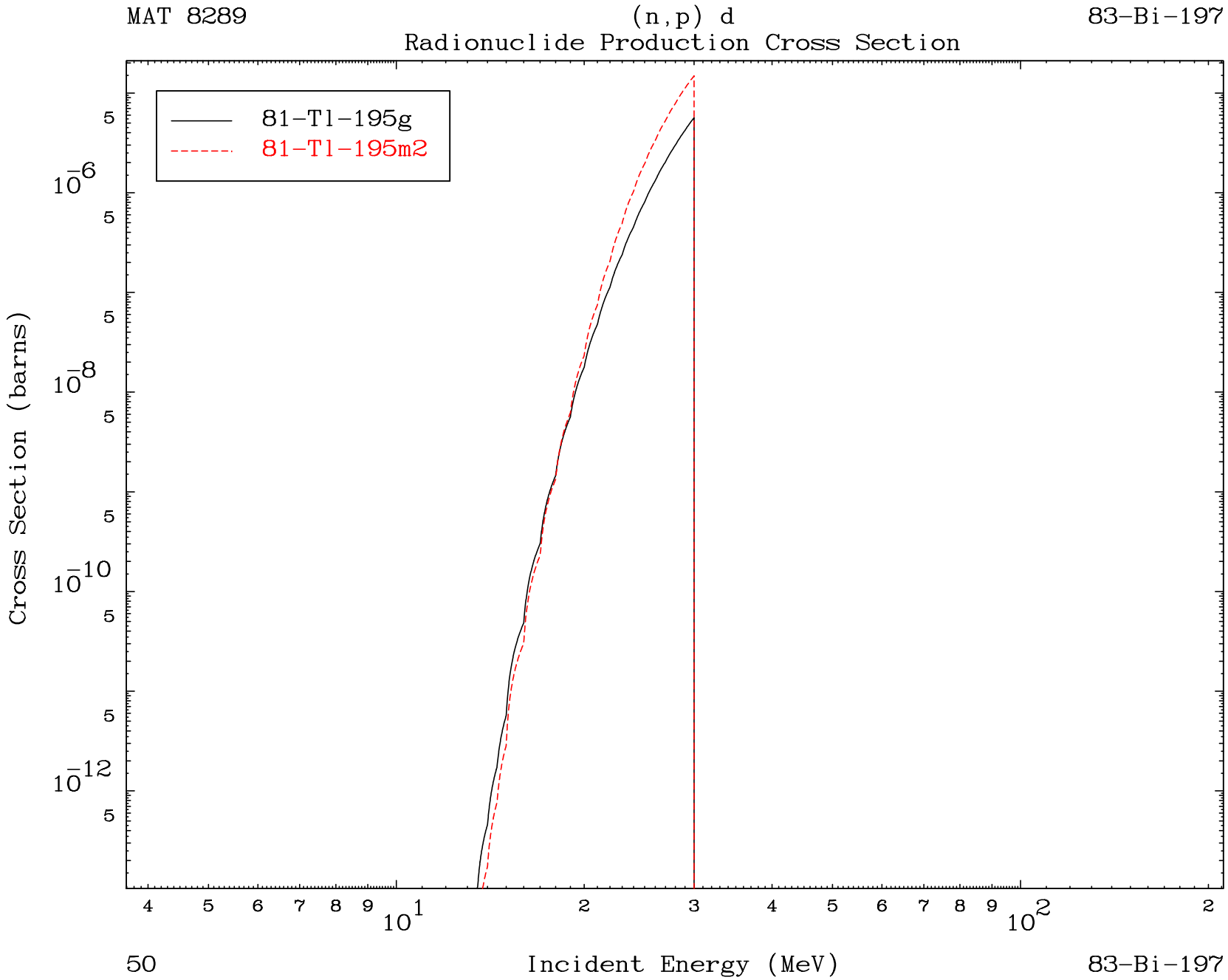

MAT 8289
(n,t)
83-Bi-197
Radionuclide Production Cross Section
82-Pb-195g
82-Pb-195m2
Cross Section (barns)
Incident Energy (MeV)
45
83-Bi-197

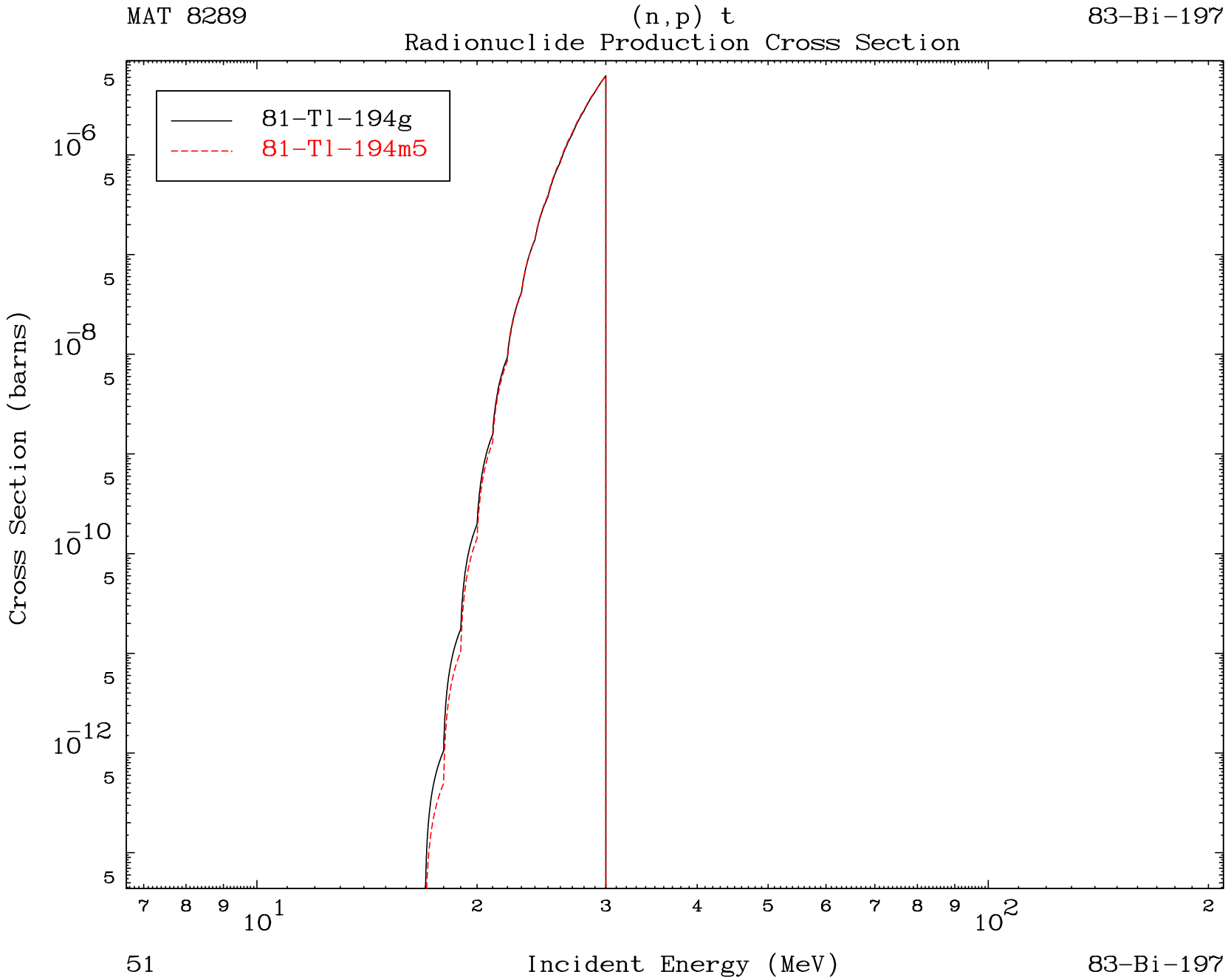

MAT 8289
(n,He-3)
83-Bi-197
Radionuclide Production Cross Section
81-Tl-195g
81-Tl-195m2
Cross Section (barns)
Incident Energy (MeV)
46
83-Bi-197


MAT 8289
(n,α)
83-Bi-197
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
10^-10
10^0
10^2
Incident Energy (MeV)
47
83-Bi-197


MAT 8289
(n,2p)
83-Bi-197
Radionuclide Production Cross Section
81-Tl-196g
81-Tl-196m6
Cross Section (barns)
Incident Energy (MeV)
48
83-Bi-197


MAT 8289
(n,p) α
83-Bi-197
Radionuclide Production Cross Section
80-Hg-193g
80-Hg-193m3
Cross Section (barns)
Incident Energy (MeV)
49
83-Bi-197


MAT 8289
(n,p) d
83-Bi-197
Radionuclide Production Cross Section
81-Tl-195g
81-Tl-195m2
Cross Section (barns)
Incident Energy (MeV)
50
83-Bi-197


MAT 8289
(n,p) t
83-Bi-197
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
Incident Energy (MeV)
51
83-Bi-197