Program EVALPLOT
(Version 2021-1)
by
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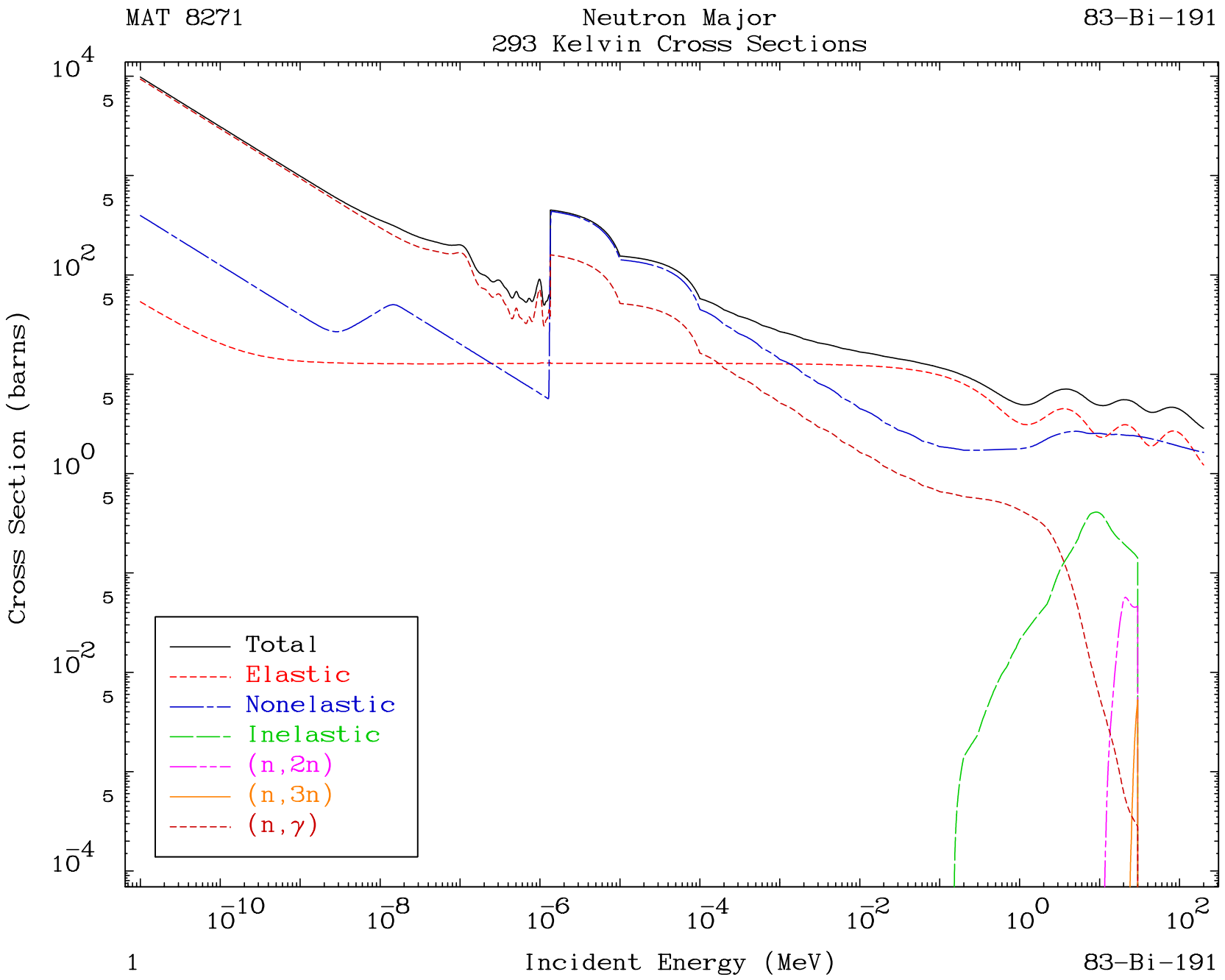
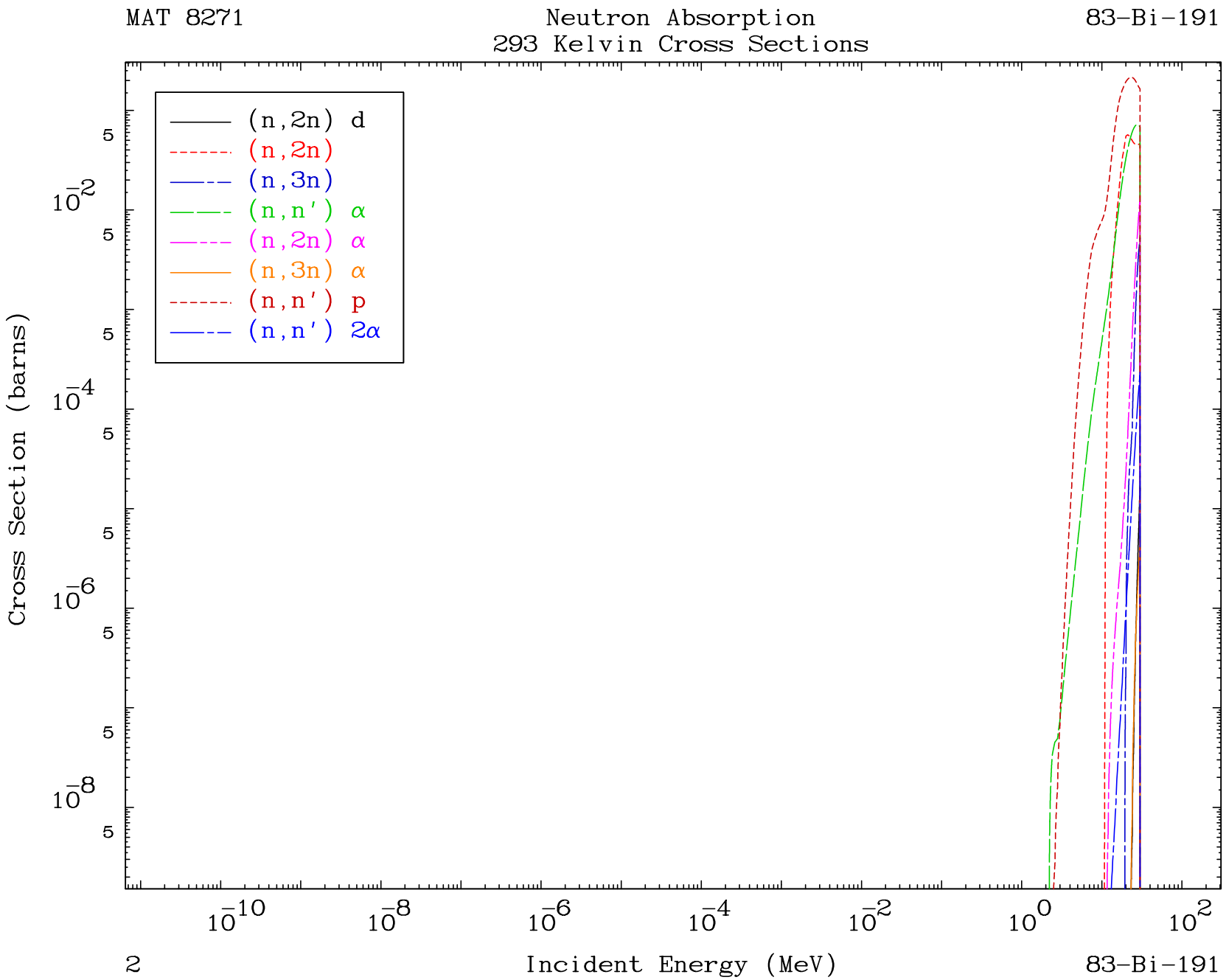
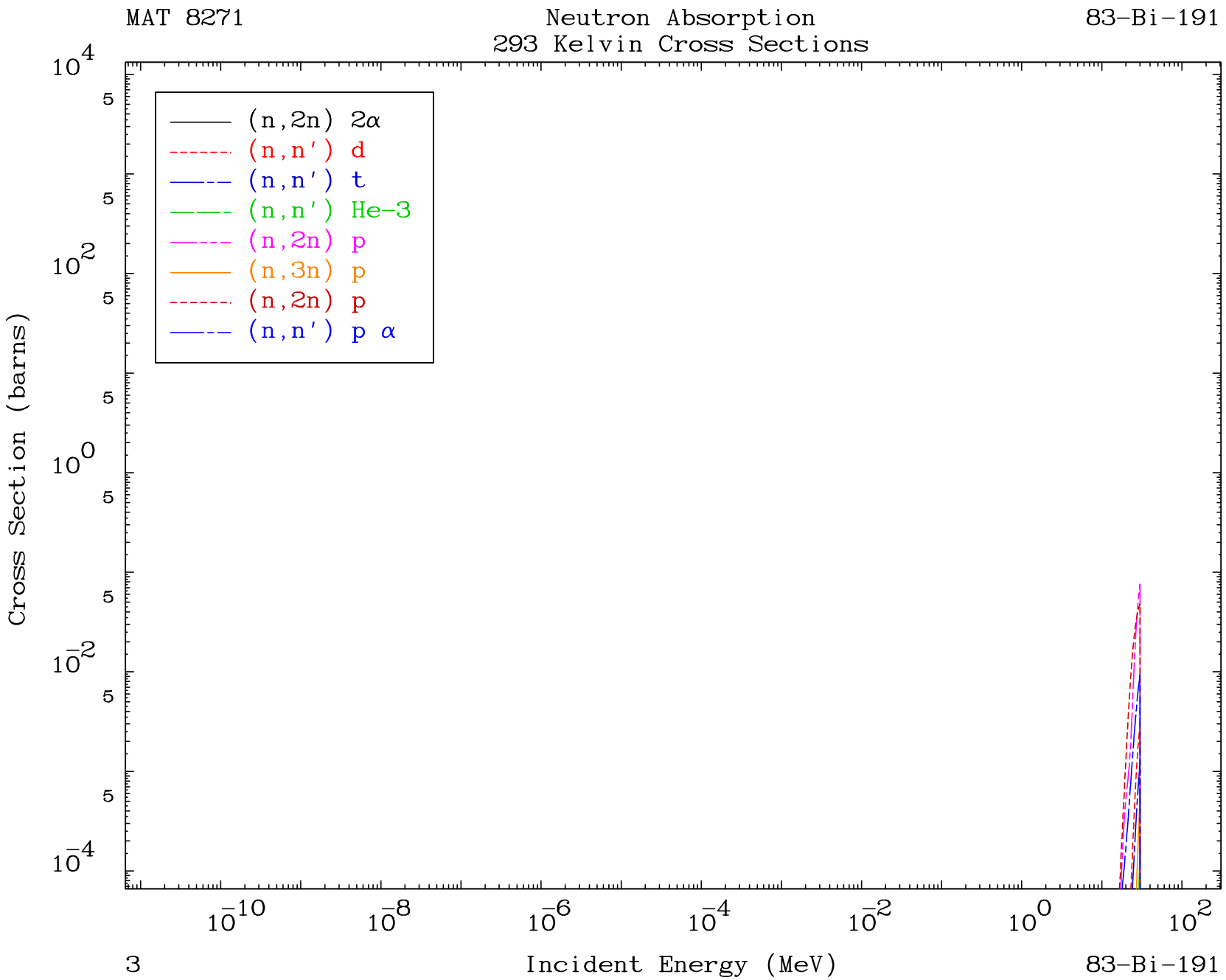
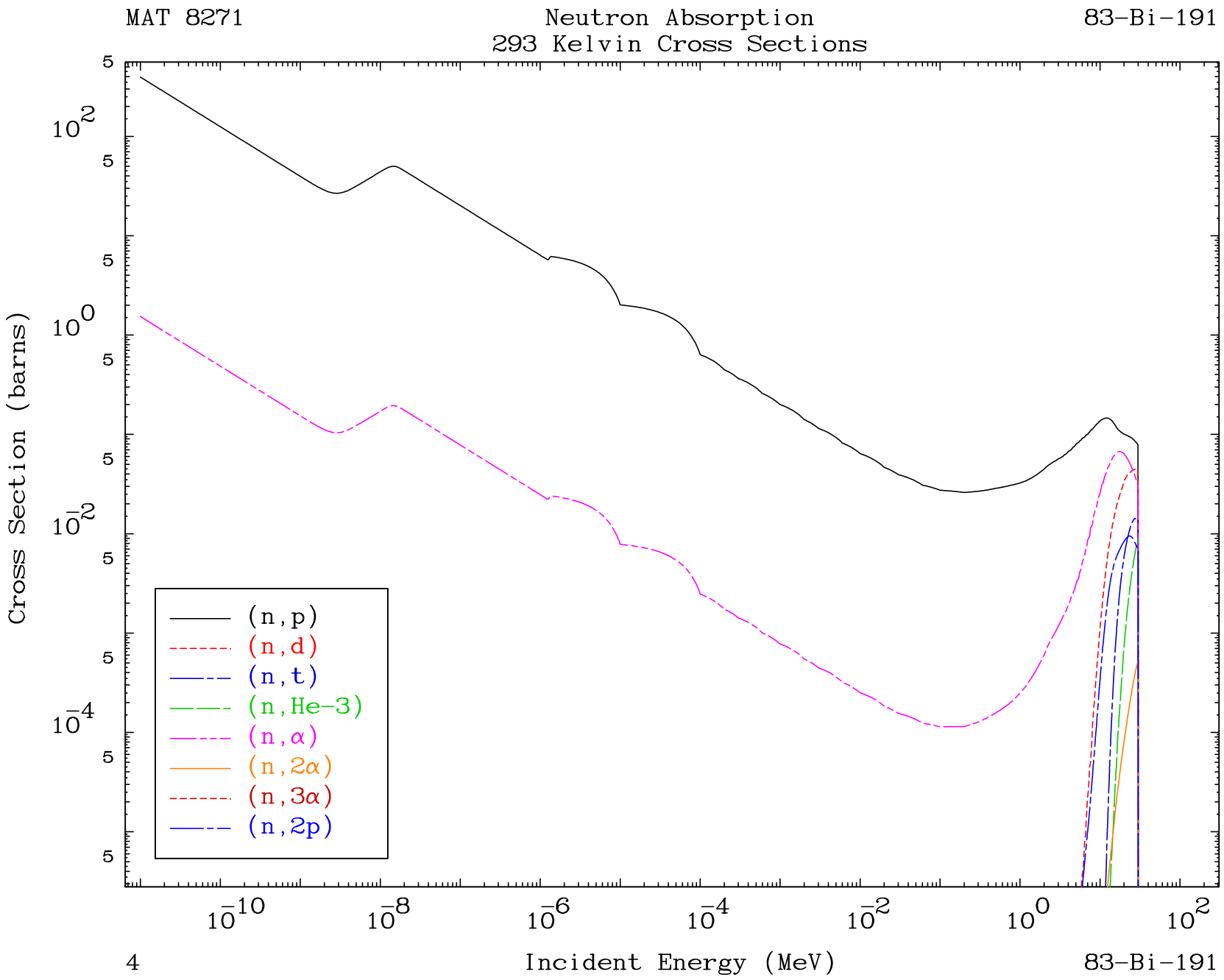
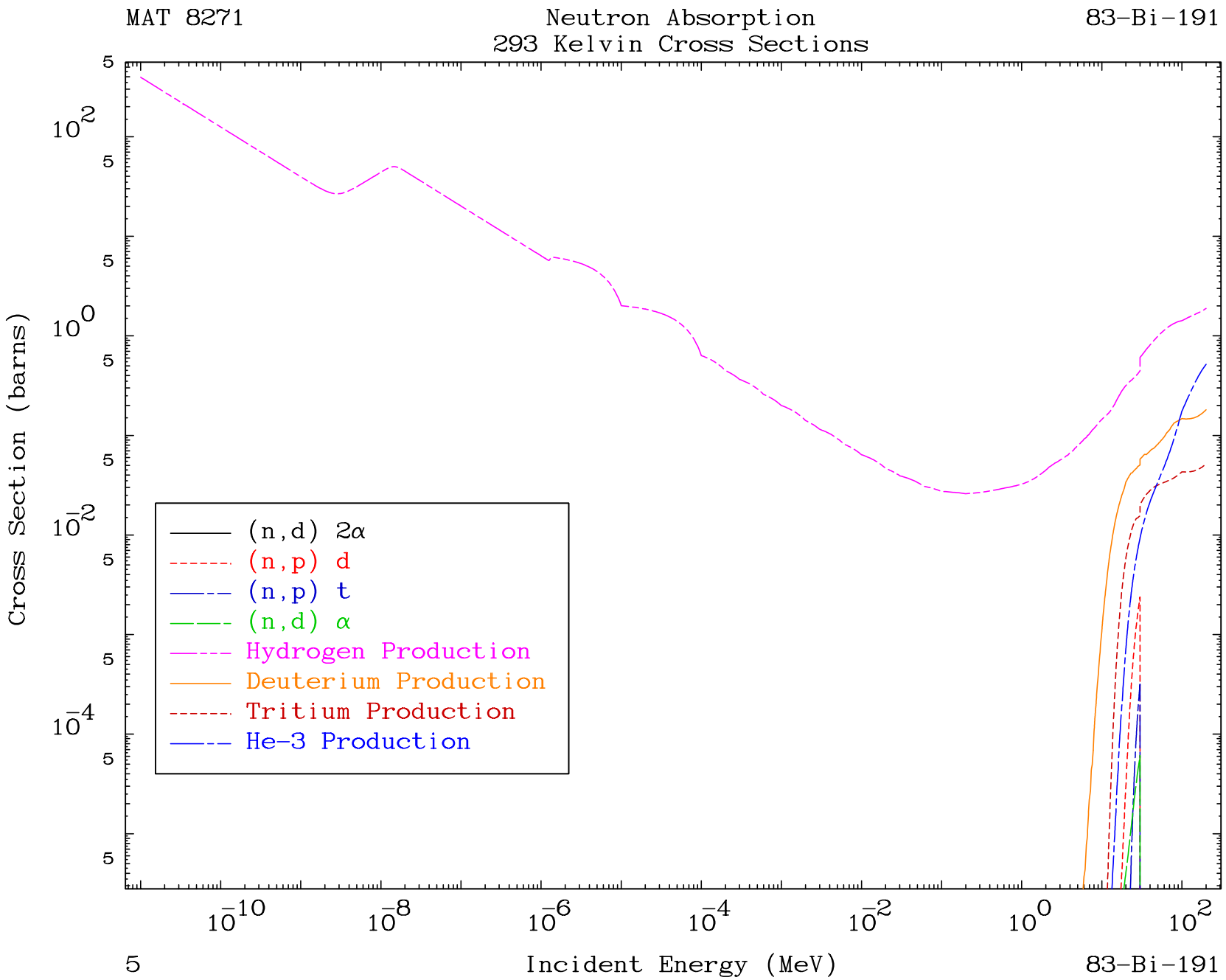
Press Mouse Button to Start

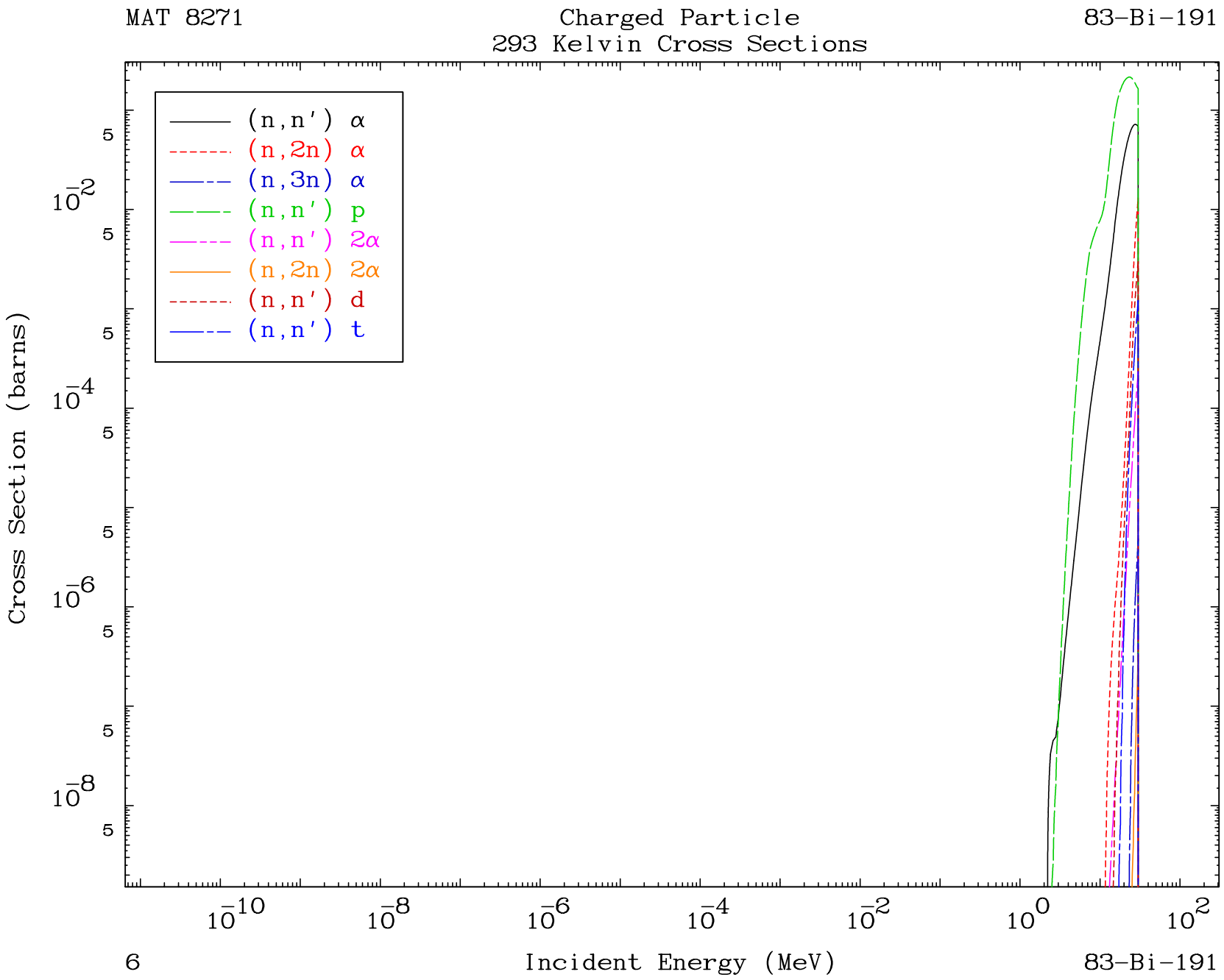

MAT 8271
Neutron Major
293 Kelvin Cross Sections
83-Bi-191
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Nonelastic
Inelastic
(n,2n)
(n,3n)
(n,γ)
1
83-Bi-191

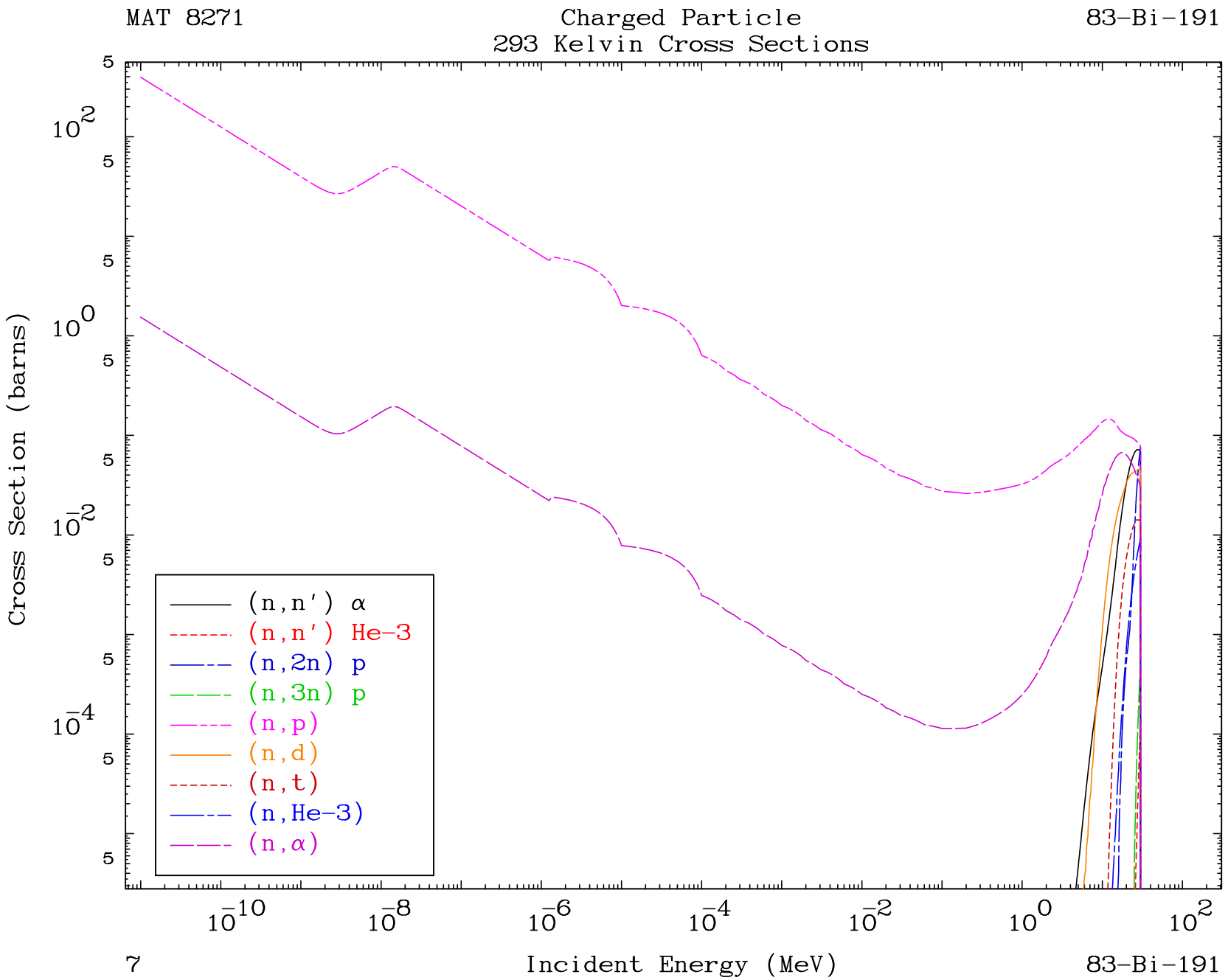

MAT 8271
Neutron Absorption
293 Kelvin Cross Sections
83-Bi-191
(n,2n) d
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
Cross Section (barns)
Incident Energy (MeV)
2
83-Bi-191

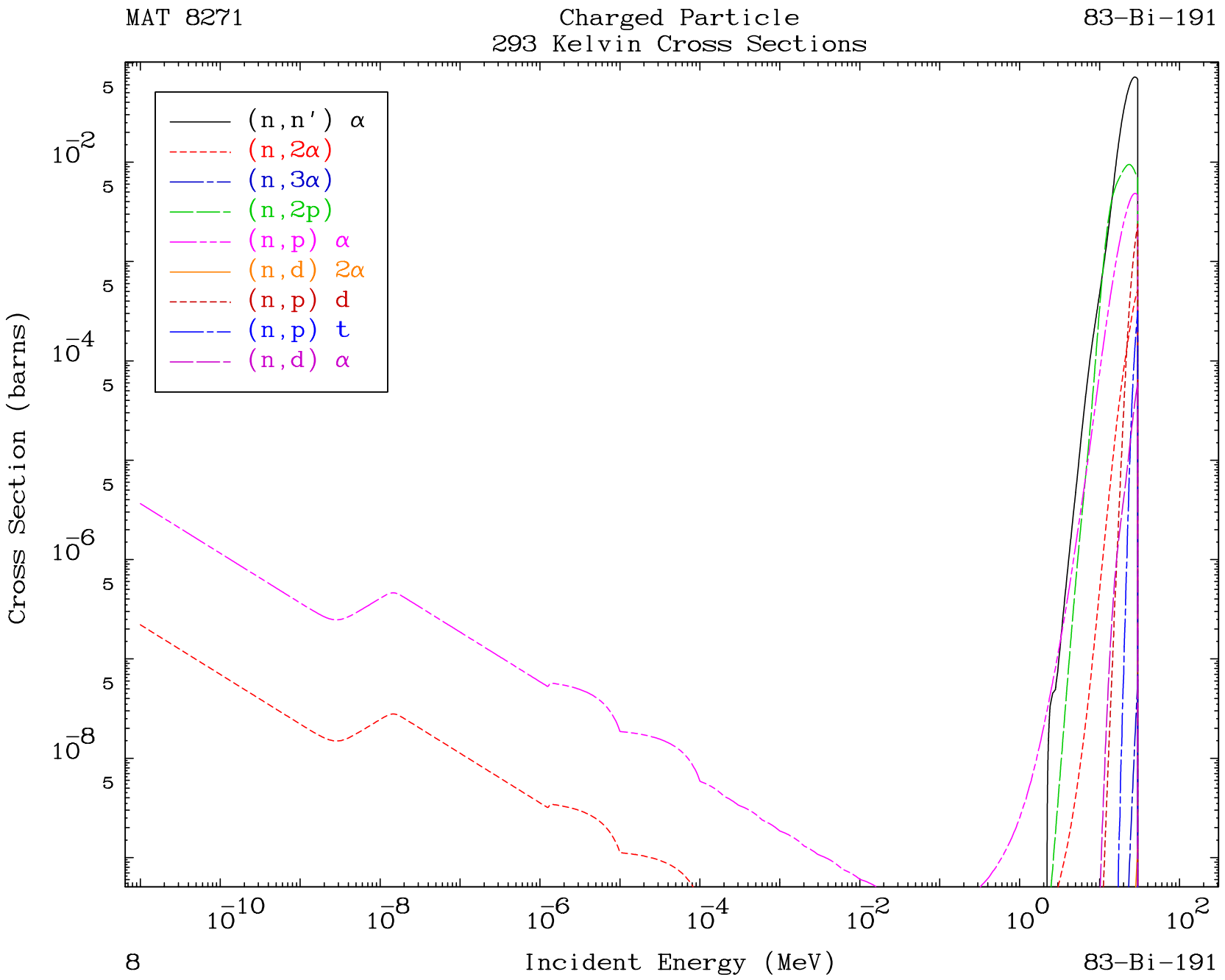

MAT 8271
Neutron Absorption
293 Kelvin Cross Sections
83-Bi-191
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
(n,2n) p
(n,n') p α
Cross Section (barns)
Incident Energy (MeV)
3
83-Bi-191

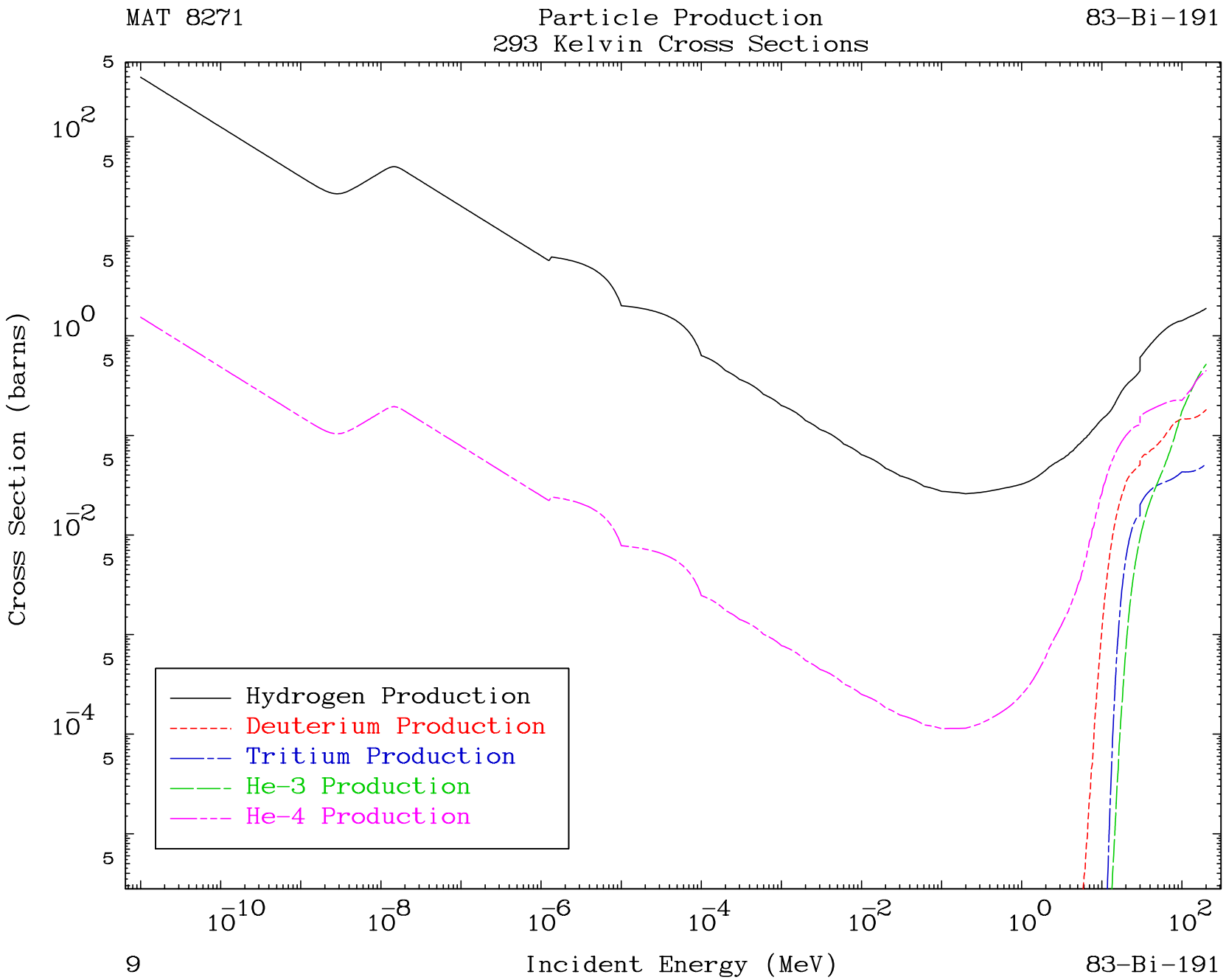

MAT 8271
Neutron Absorption
293 Kelvin Cross Sections
83-Bi-191
Cross Section (barns)
Incident Energy (MeV)
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,3α)
(n,2p)
4
83-Bi-191

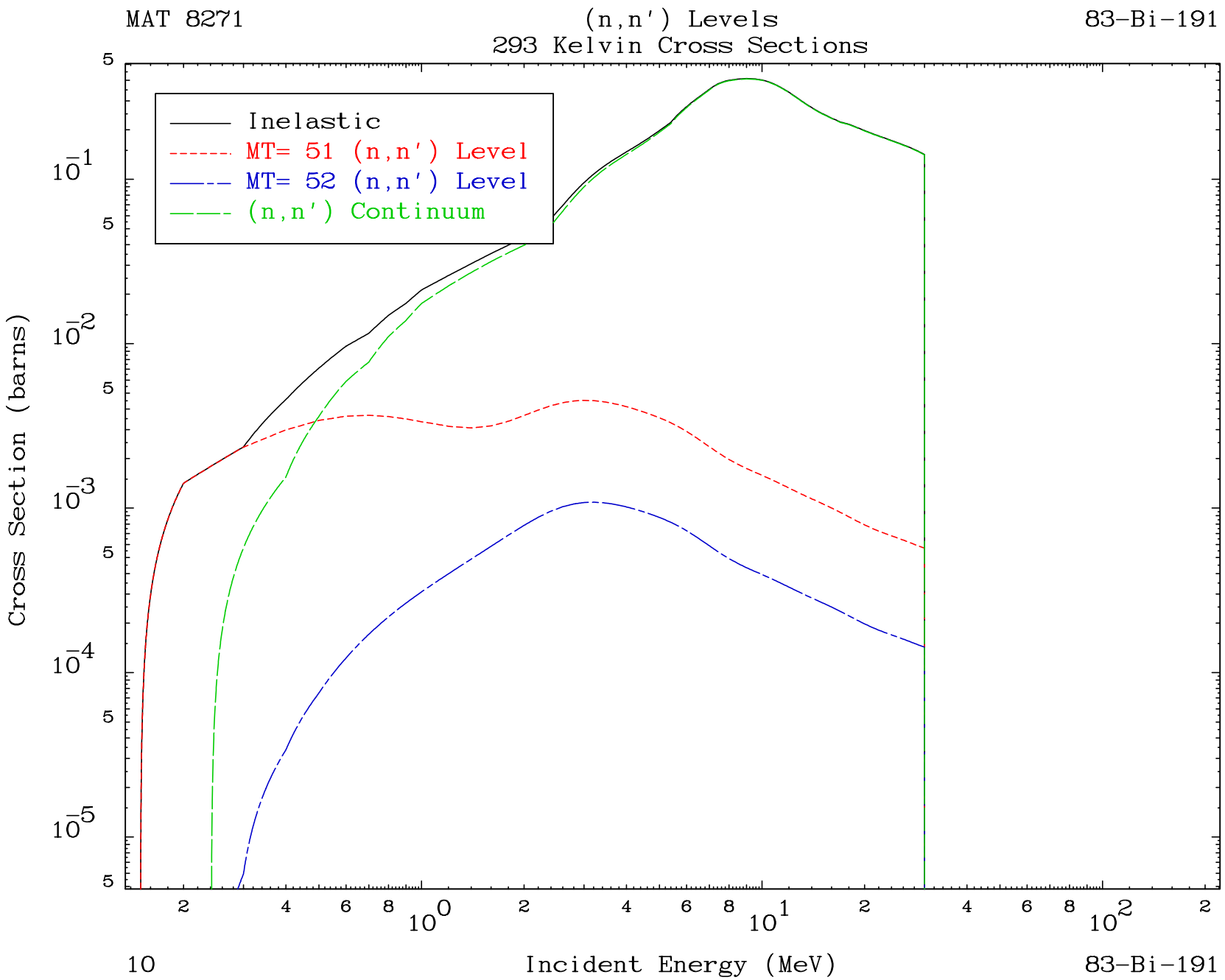

MAT 8271
Neutron Absorption
293 Kelvin Cross Sections
83-Bi-191
Cross Section (barns)
Incident Energy (MeV)
83-Bi-191
(n,d) 2α
(n,p) d
(n,p) t
(n,d) α
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production

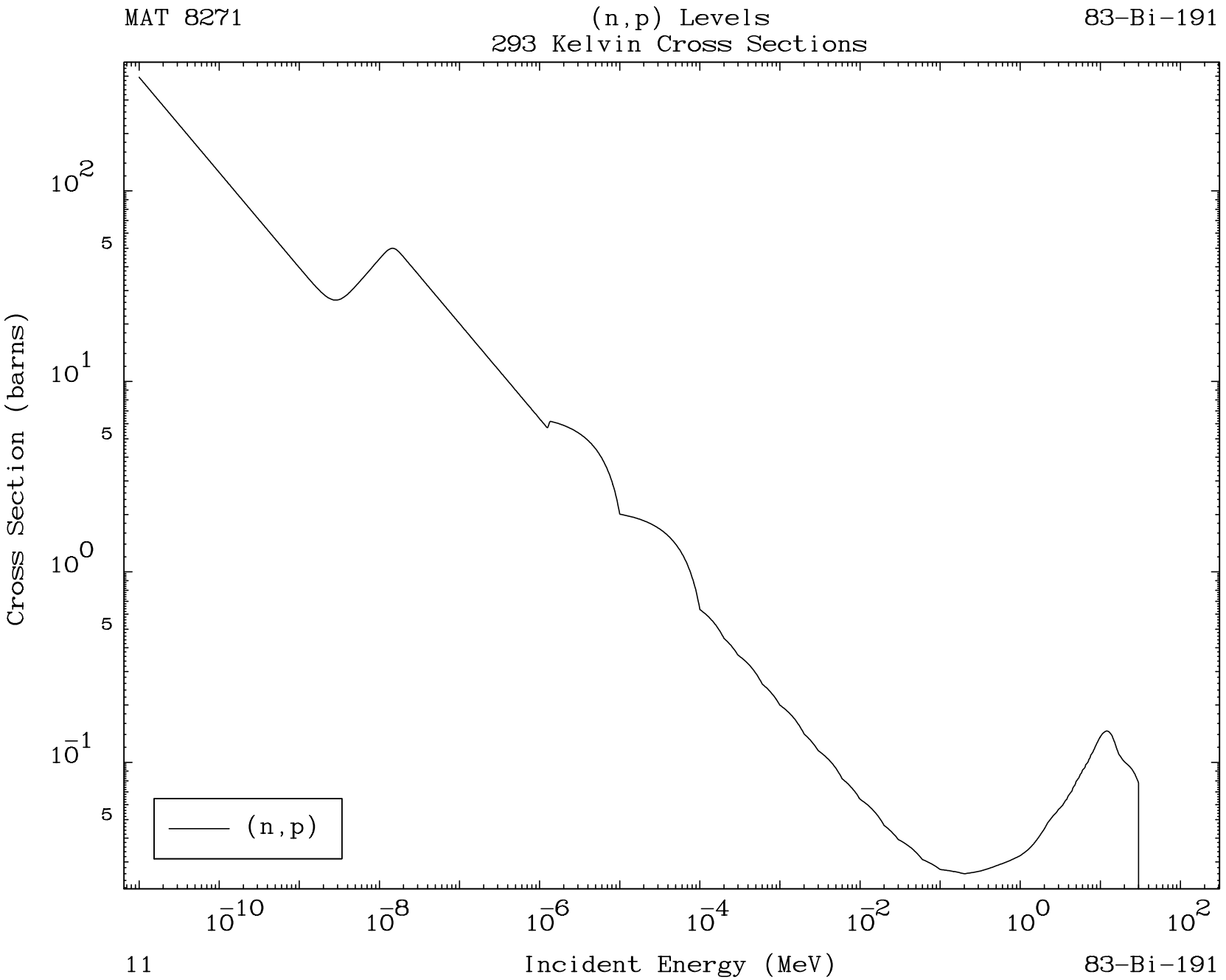

MAT 8271
Charged Particle
293 Kelvin Cross Sections
83-Bi-191
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
Cross Section (barns)
10-2
10-4
10-6
10-8
10-10
100
102
Incident Energy (MeV)
6
83-Bi-191

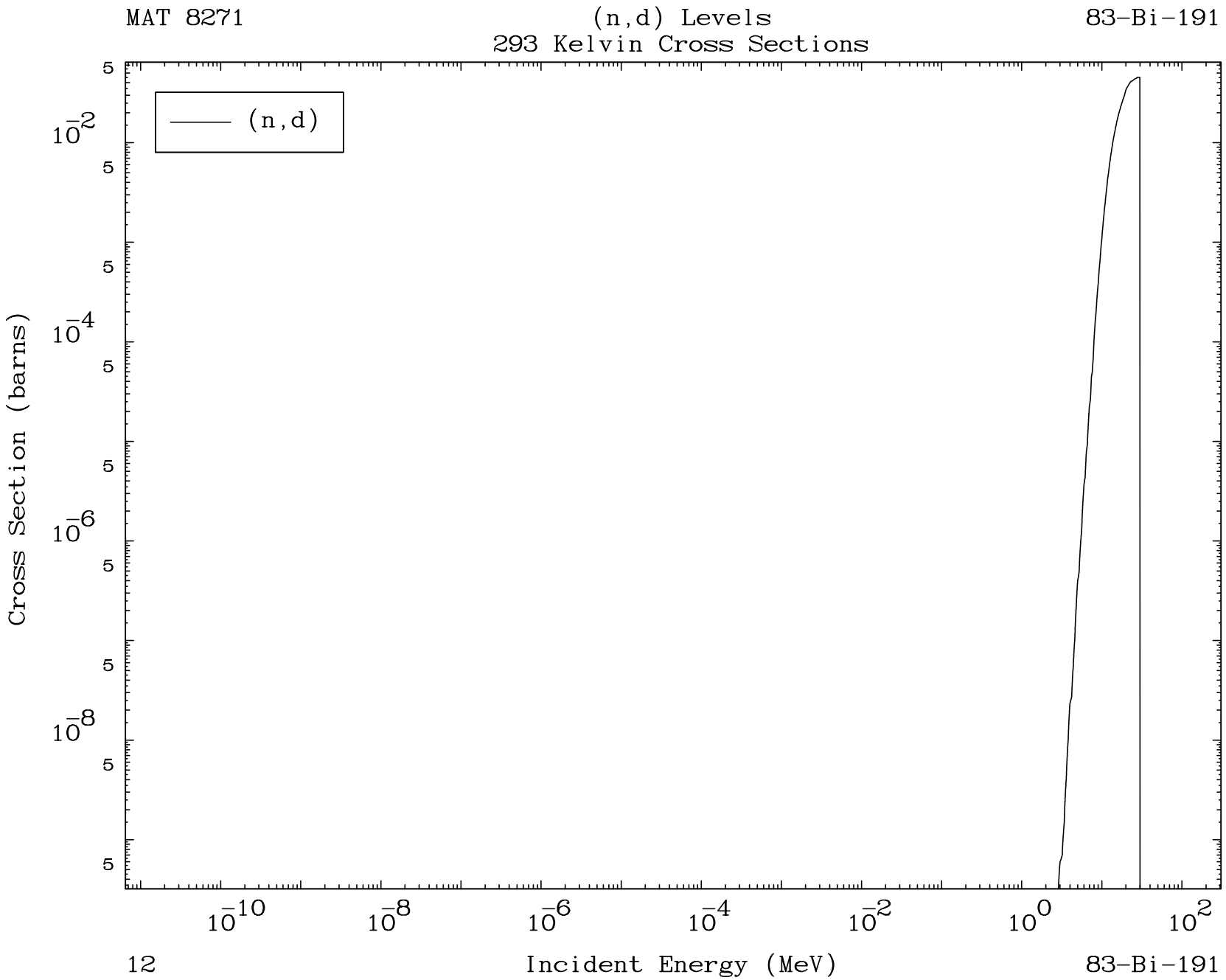

MAT 8271
Charged Particle
293 Kelvin Cross Sections
83-Bi-191
Cross Section (barns)
Incident Energy (MeV)
(n,n') α
(n,n') He-3
(n,2n) p
(n,3n) p
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
7
83-Bi-191

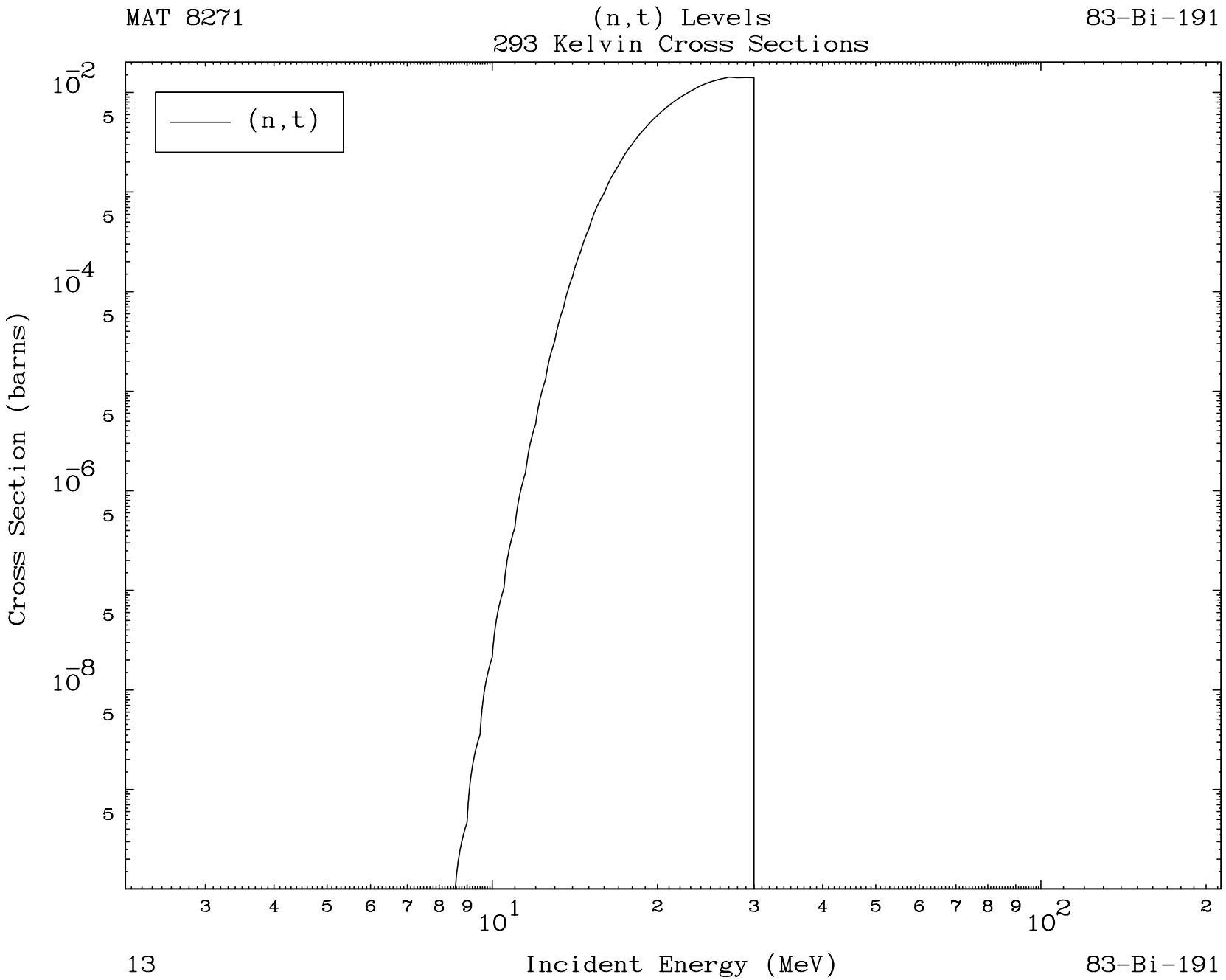

MAT 8271
Charged Particle
293 Kelvin Cross Sections
83-Bi-191
(n,n') α
(n,2α)
(n,3α)
(n,2p)
(n,p) α
(n,d) 2α
(n,p) d
(n,p) t
(n,d) α
Cross Section (barns)
Incident Energy (MeV)
8
83-Bi-191

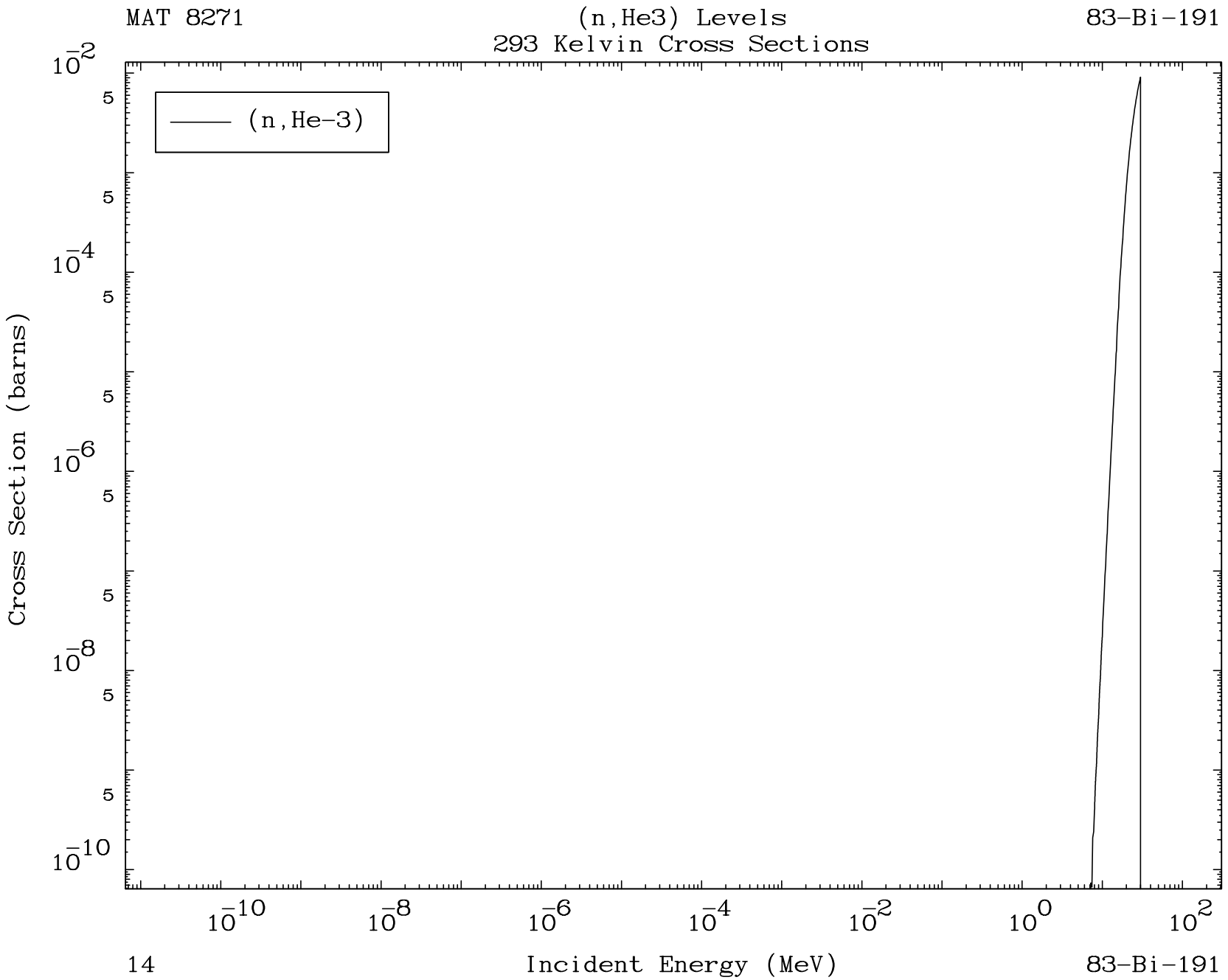

MAT 8271
Particle Production
293 Kelvin Cross Sections
83-Bi-191
Cross Section (barns)
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
9
83-Bi-191

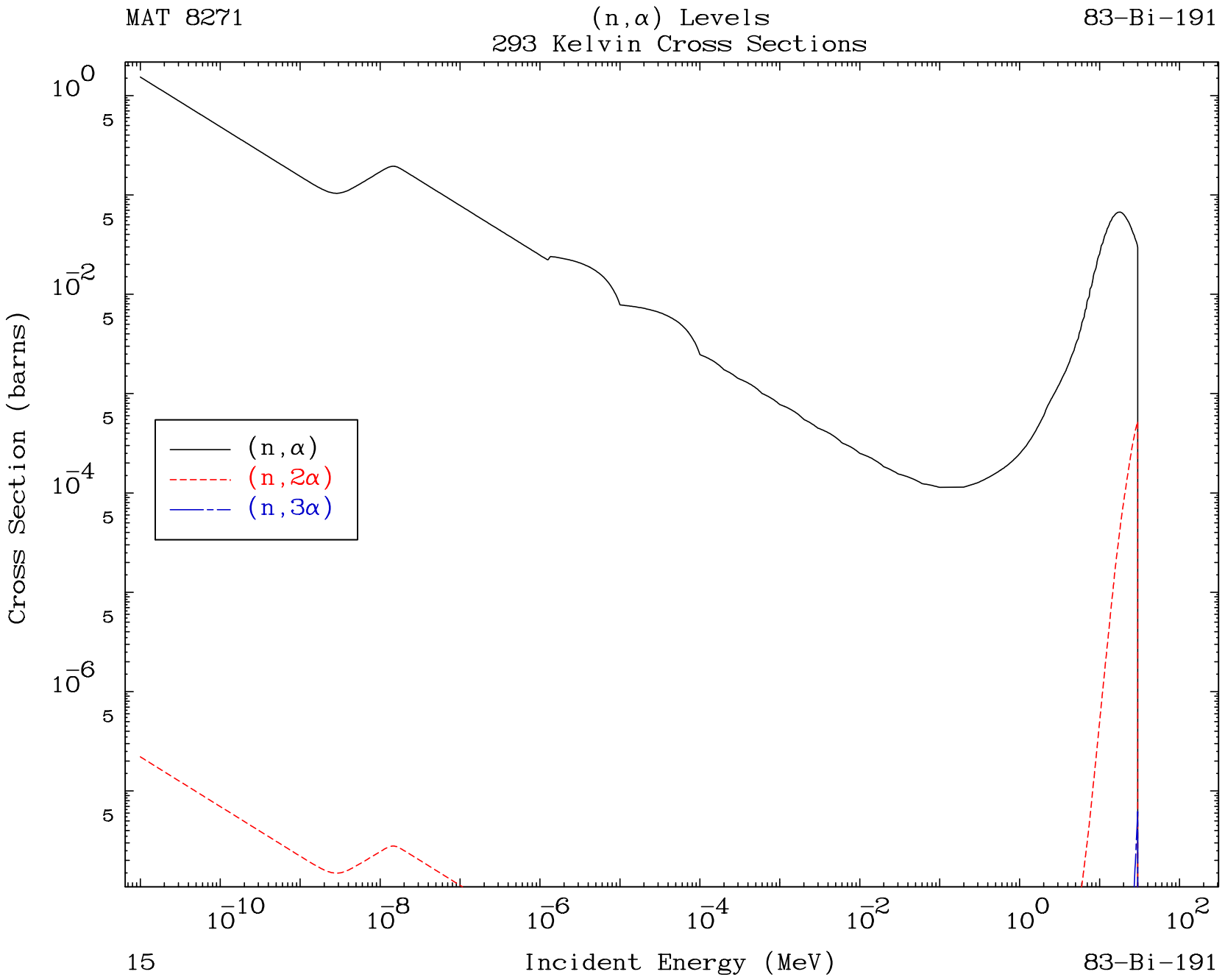

MAT 8271
(n,n') Levels
293 Kelvin Cross Sections
83-Bi-191
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
(n,n') Continuum
Cross Section (barns)
Incident Energy (MeV)
10
83-Bi-191

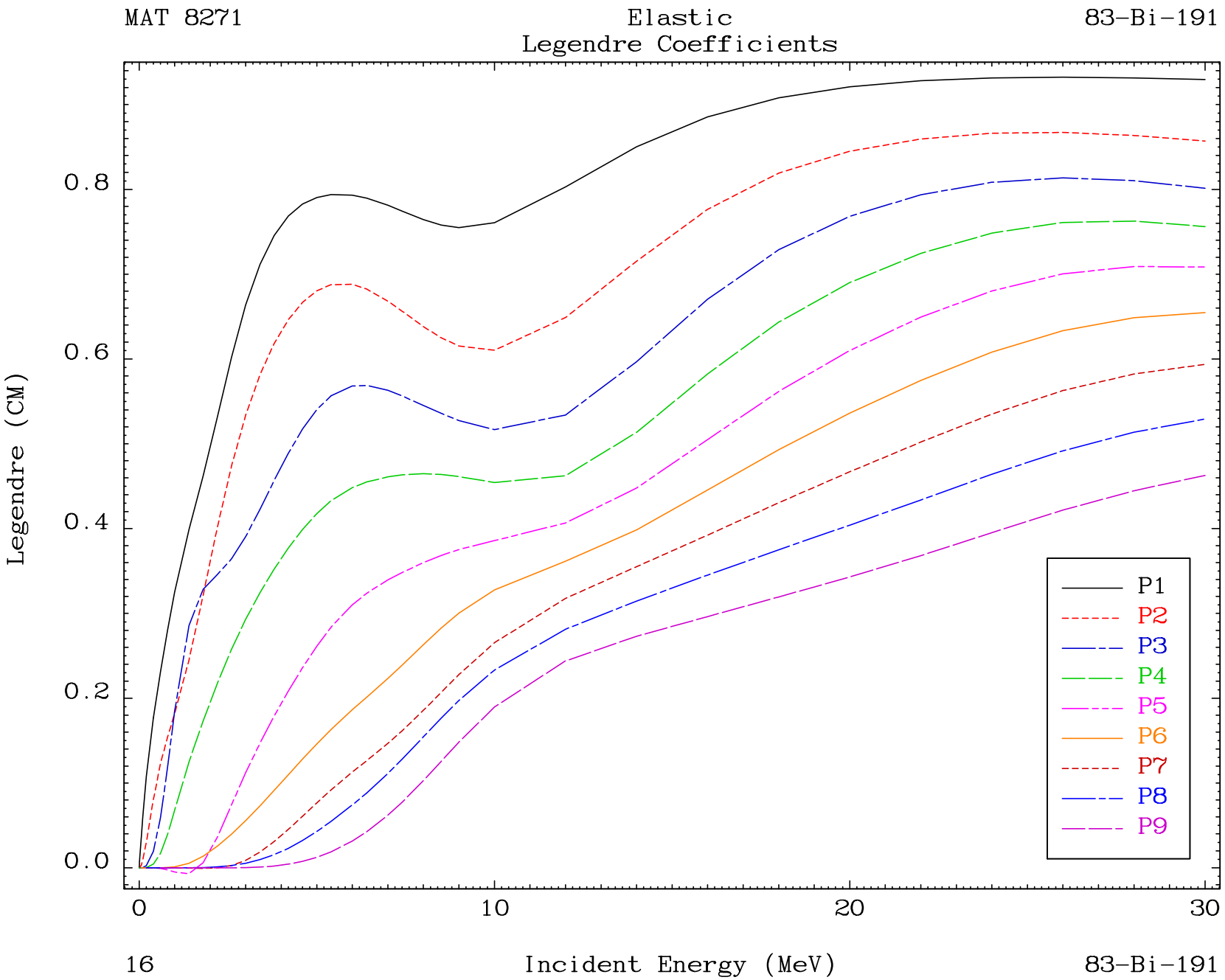

MAT 8271
(n,p) Levels
83-Bi-191
293 Kelvin Cross Sections
Cross Section (barns)
10^2
5
10^1
5
10^0
5
10^-1
5
(n,p)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
11
Incident Energy (MeV)
83-Bi-191

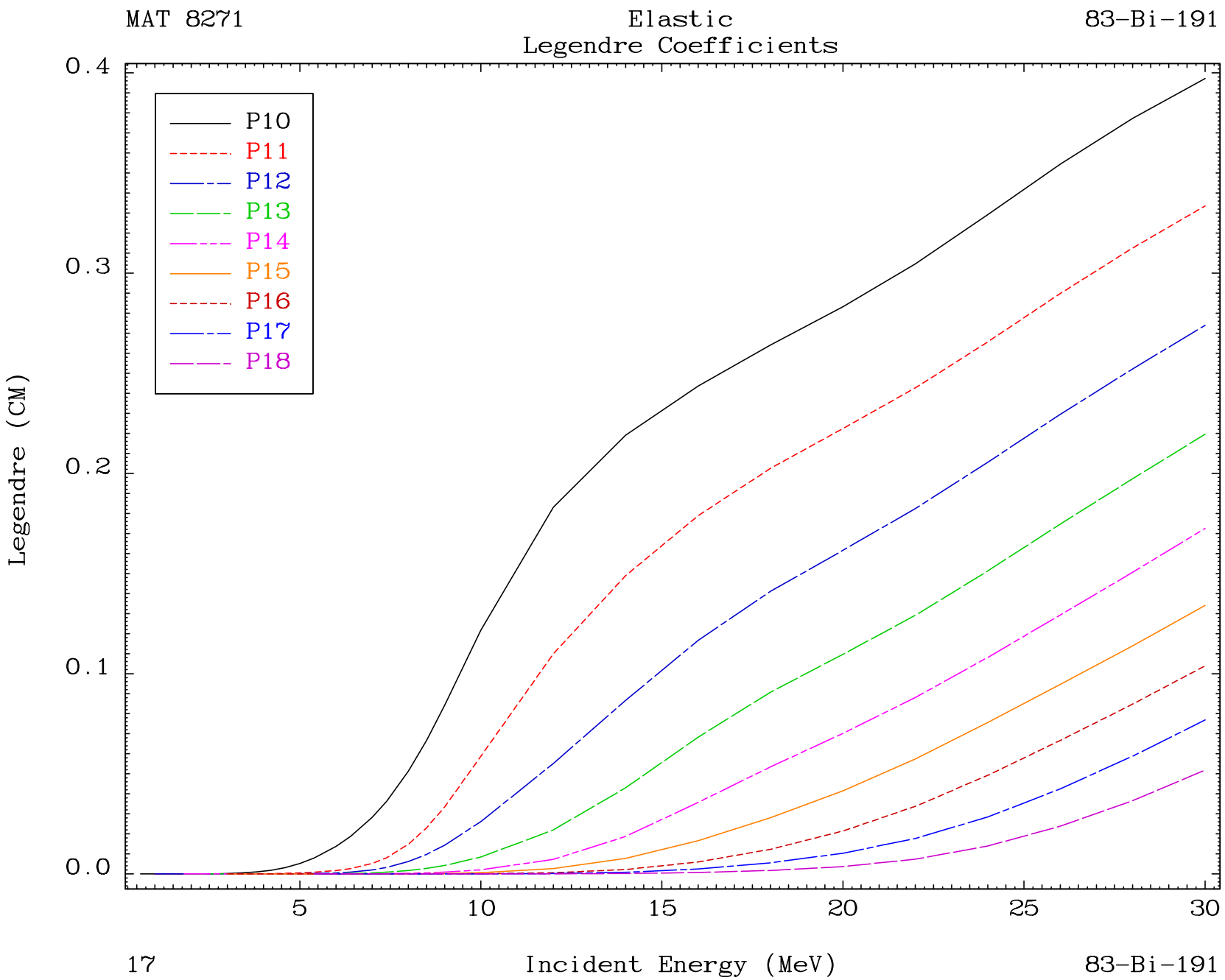

MAT 8271
(n,d) Levels
83-Bi-191
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
12
83-Bi-191

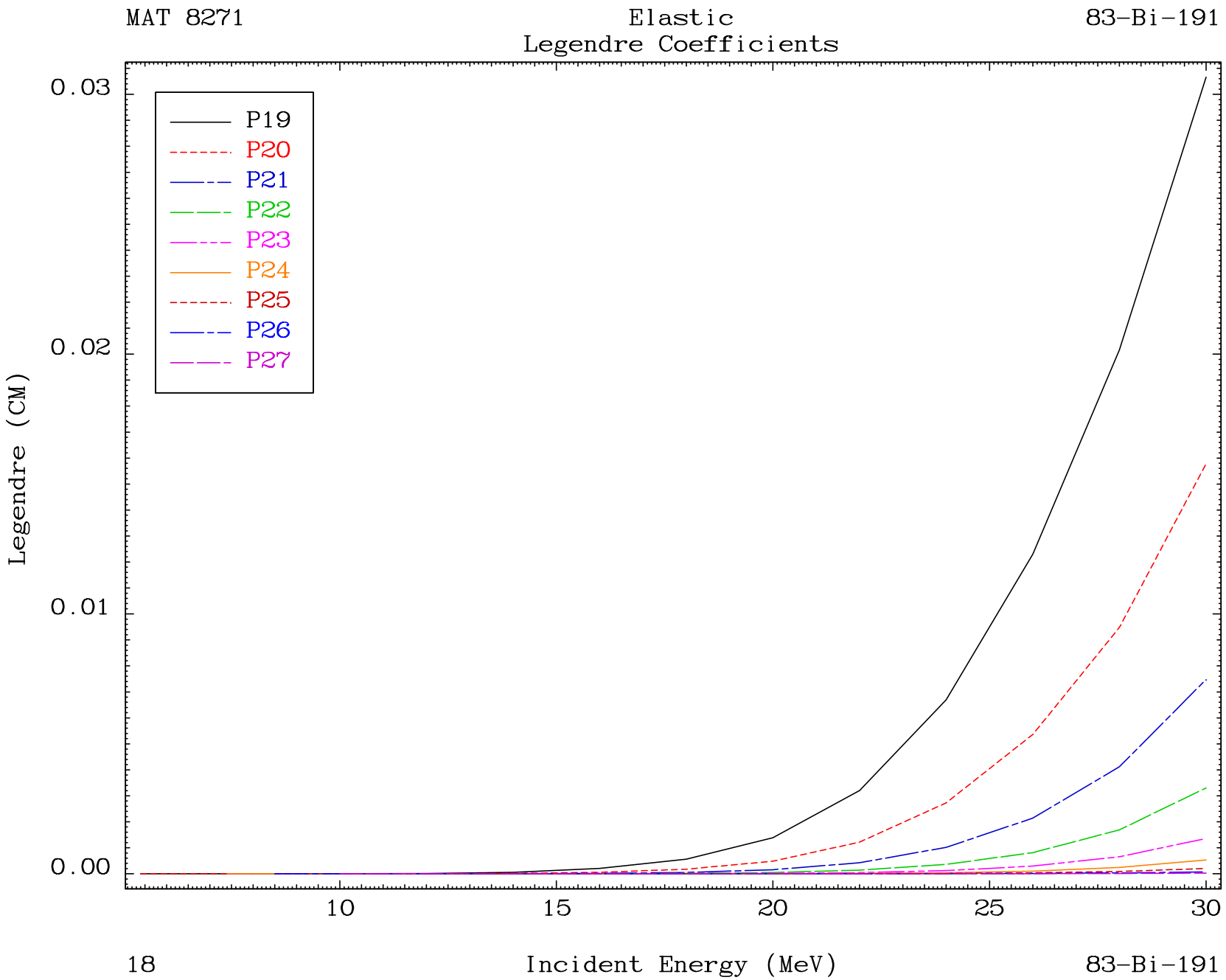

MAT 8271
(n,t) Levels
83-Bi-191
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
13
83-Bi-191

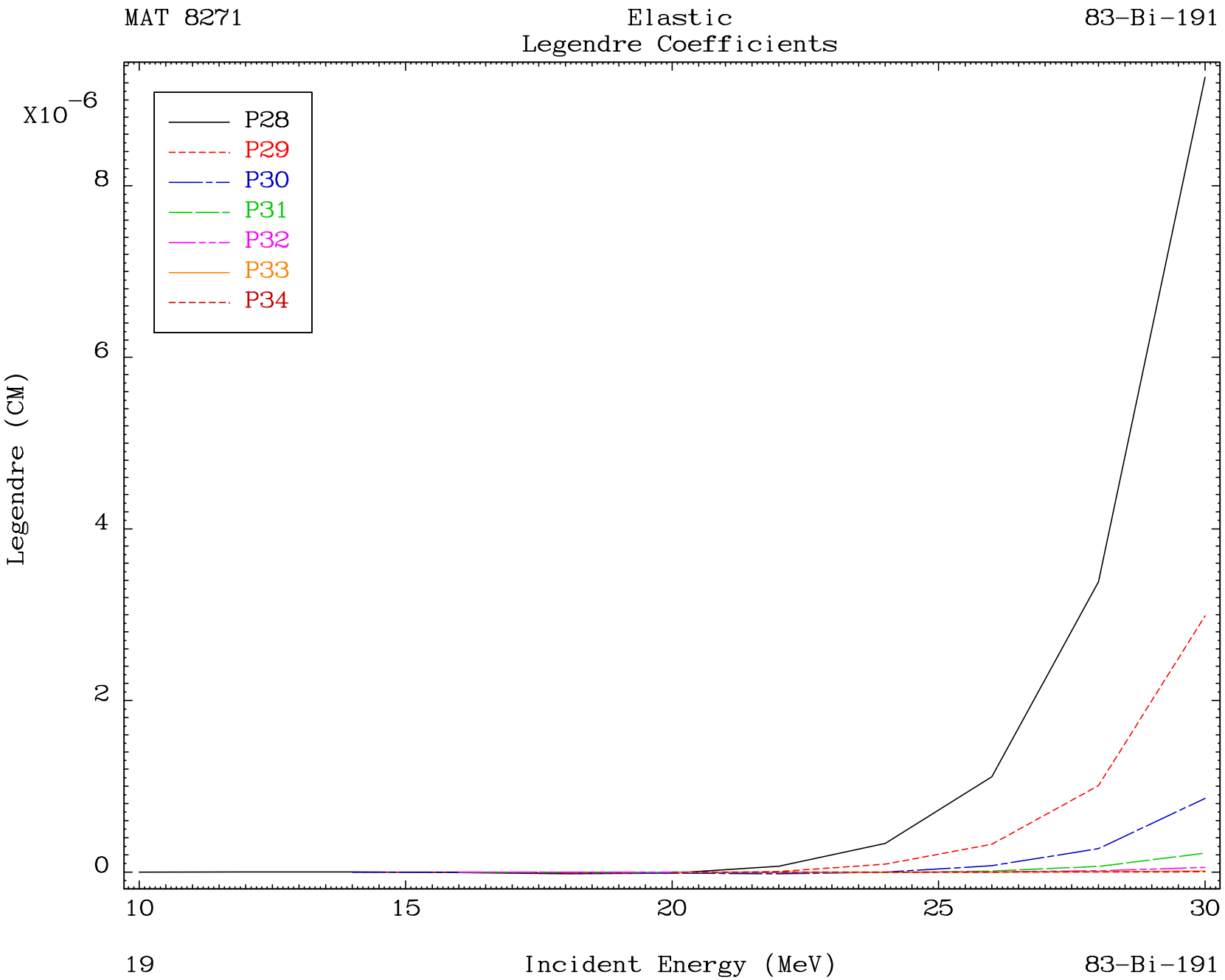

MAT 8271
(n,He3) Levels
83-Bi-191
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
14
83-Bi-191

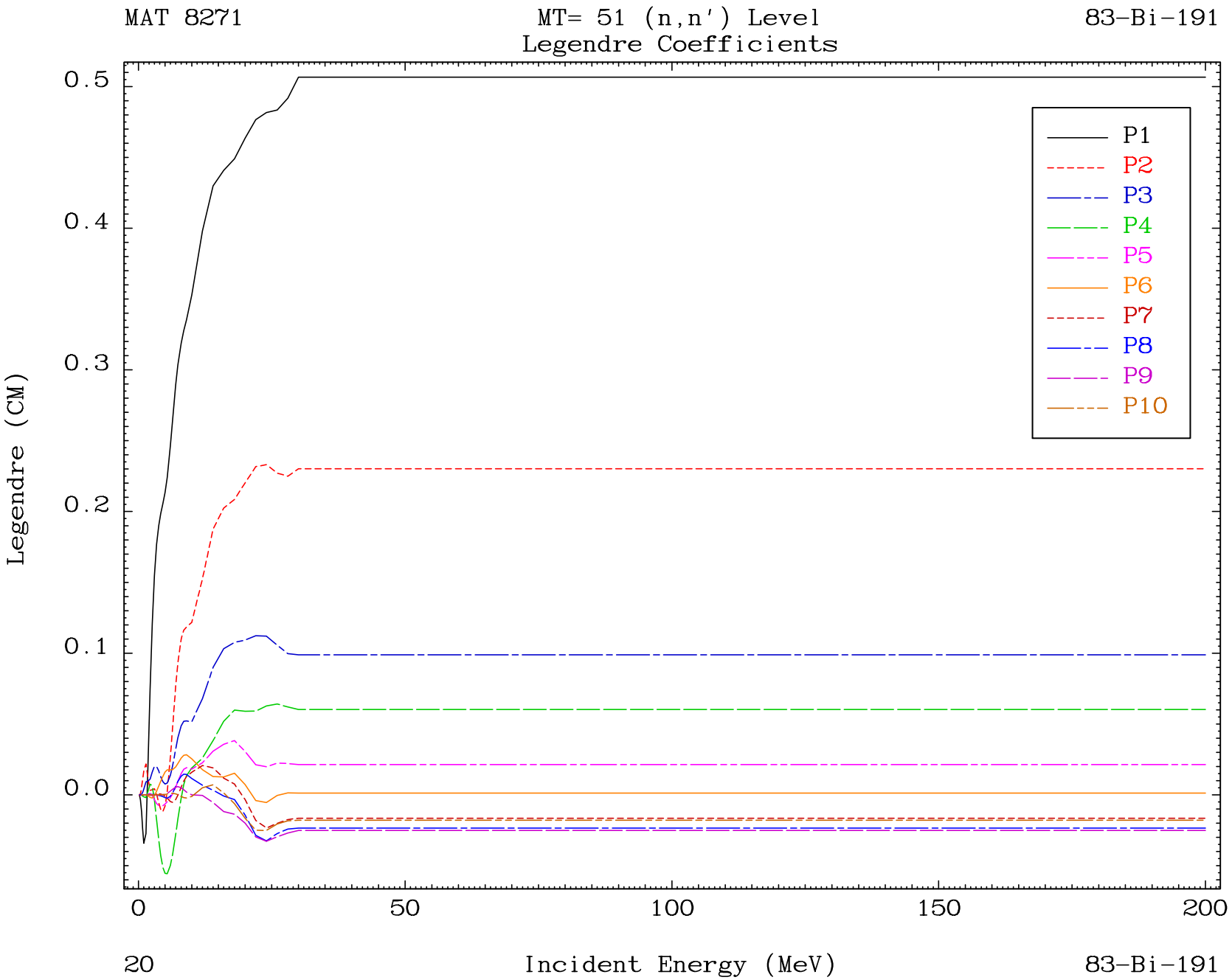

MAT 8271
(n,α) Levels
293 Kelvin Cross Sections
83-Bi-191
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
5
(n,α)
(n,2α)
(n,3α)
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
15
83-Bi-191

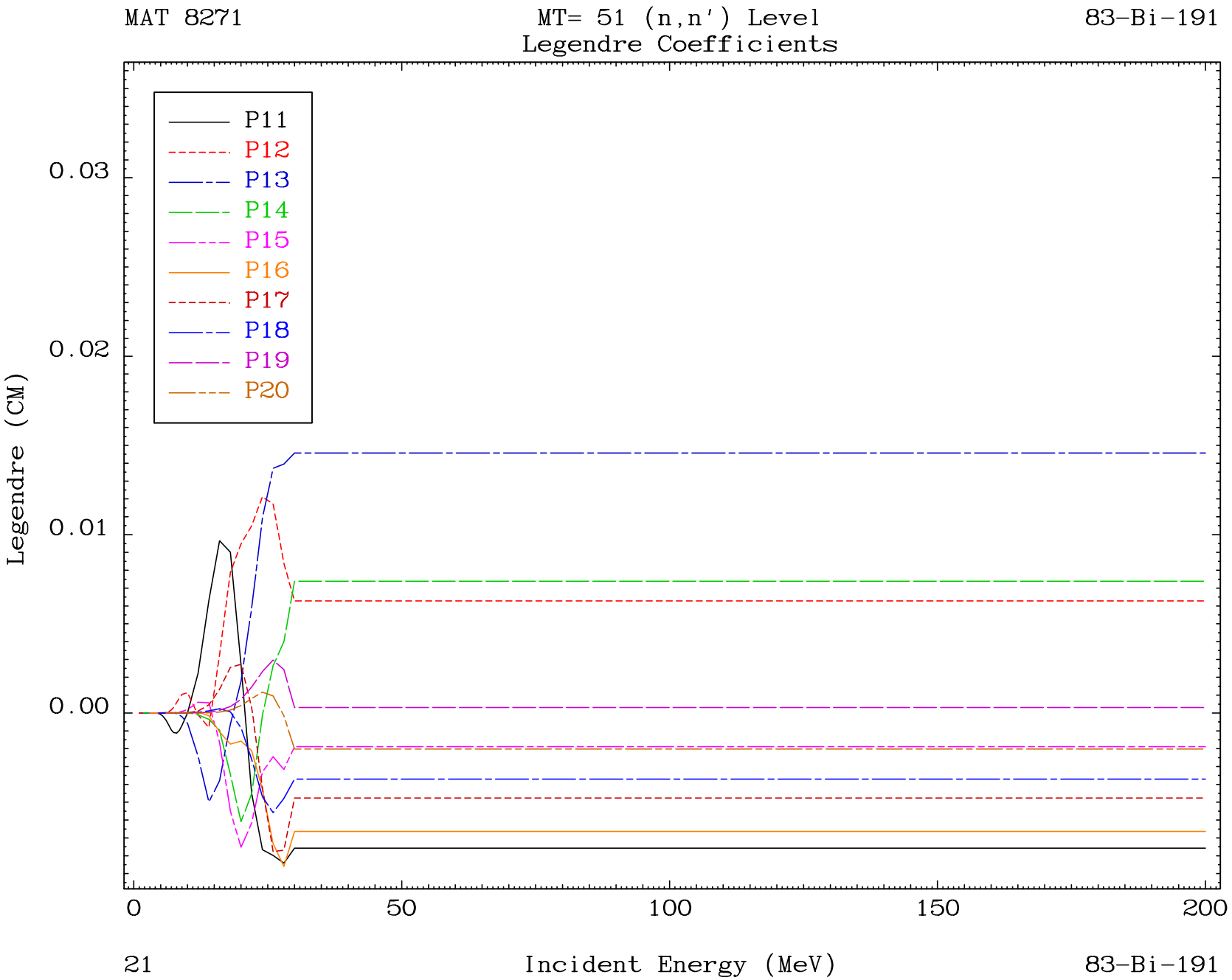

MAT 8271
Elastic
Legendre Coefficients
83-Bi-191
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
16
Incident Energy (MeV)
83-Bi-191
P1
P2
P3
P4
P5
P6
P7
P8
P9

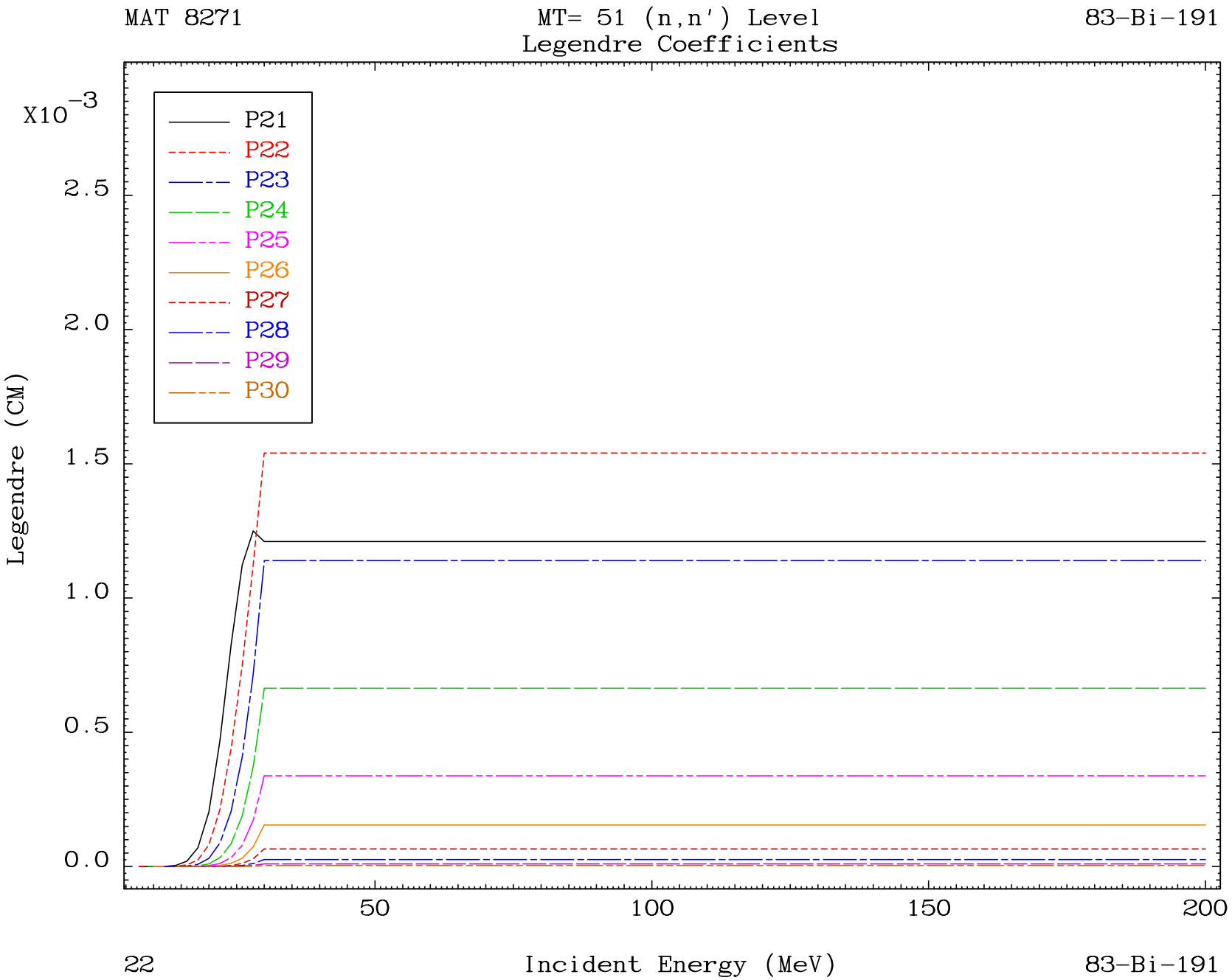

MAT 8271
Elastic
Legendre Coefficients
83-Bi-191
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
5
10
15
20
25
30
17
Incident Energy (MeV)
83-Bi-191

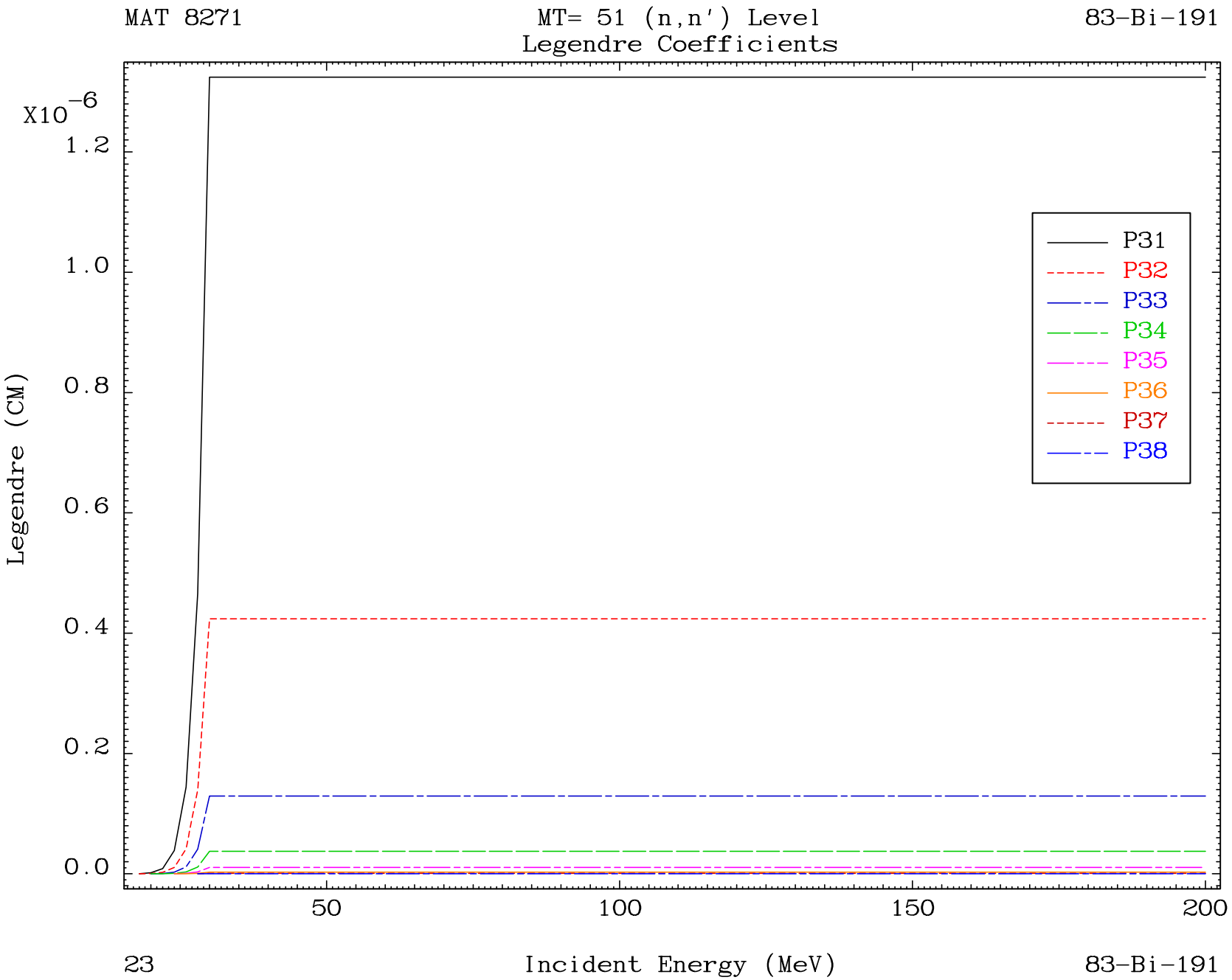

MAT 8271
Elastic
Legendre Coefficients
83-Bi-191
P19
P20
P21
P22
P23
P24
P25
P26
P27
0.03
0.02
0.01
0.00
Legendre (CM)
10
15
20
25
30
18
Incident Energy (MeV)
83-Bi-191

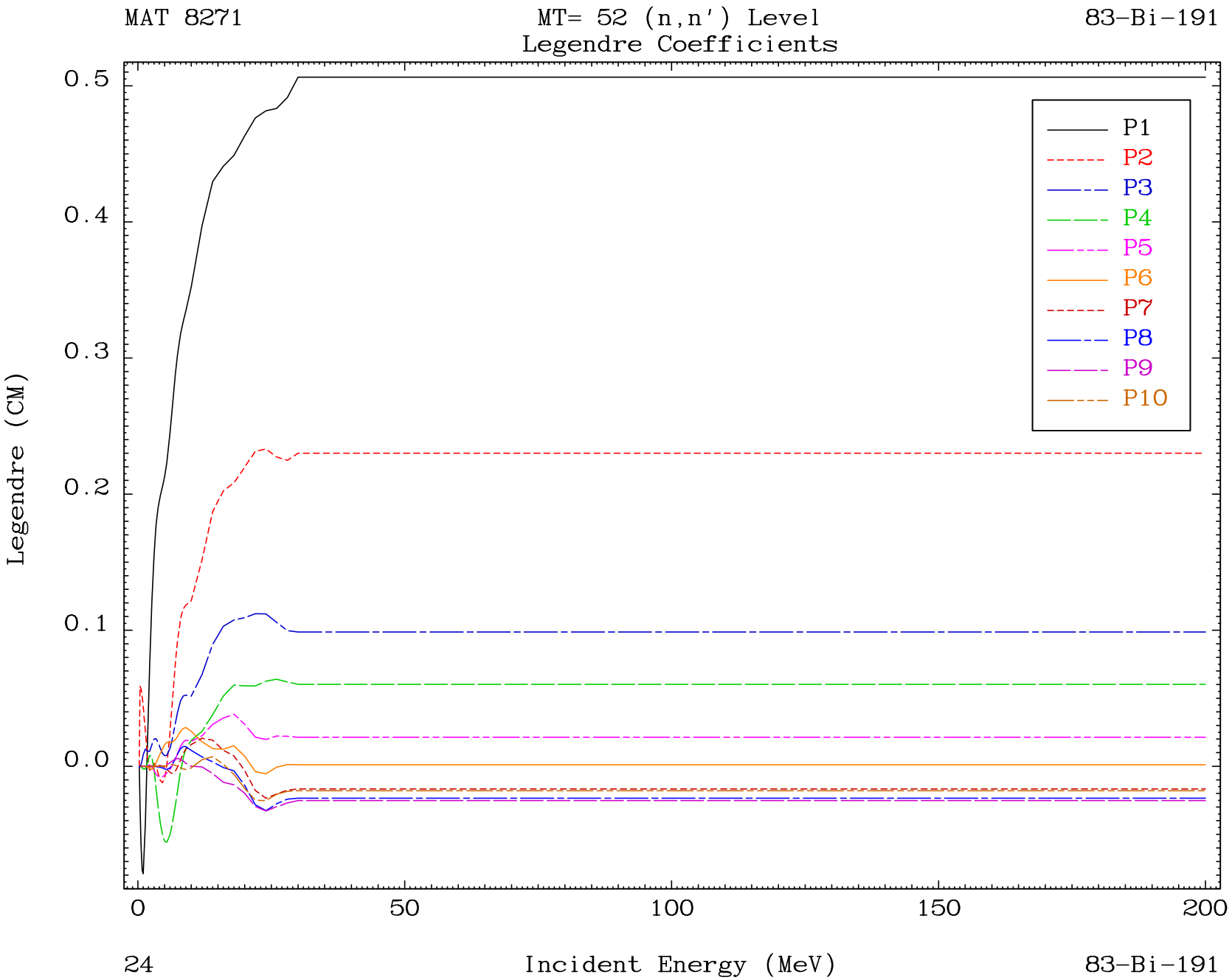

MAT 8271
Elastic
Legendre Coefficients
83-Bi-191
X10 −6
8
6
4
2
0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
19
Incident Energy (MeV)
83-Bi-191

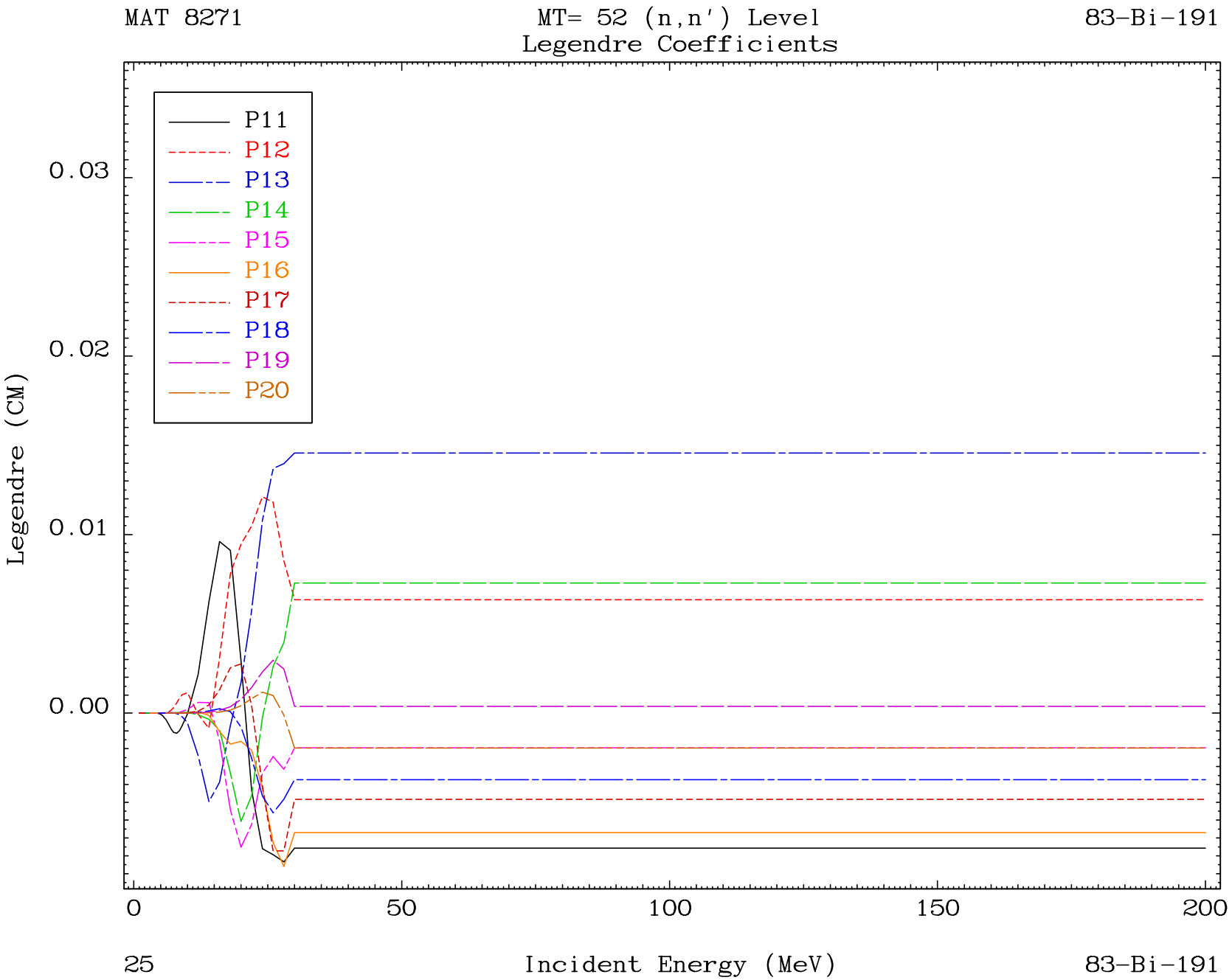

MAT 8271
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-191
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
20
Incident Energy (MeV)
83-Bi-191
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

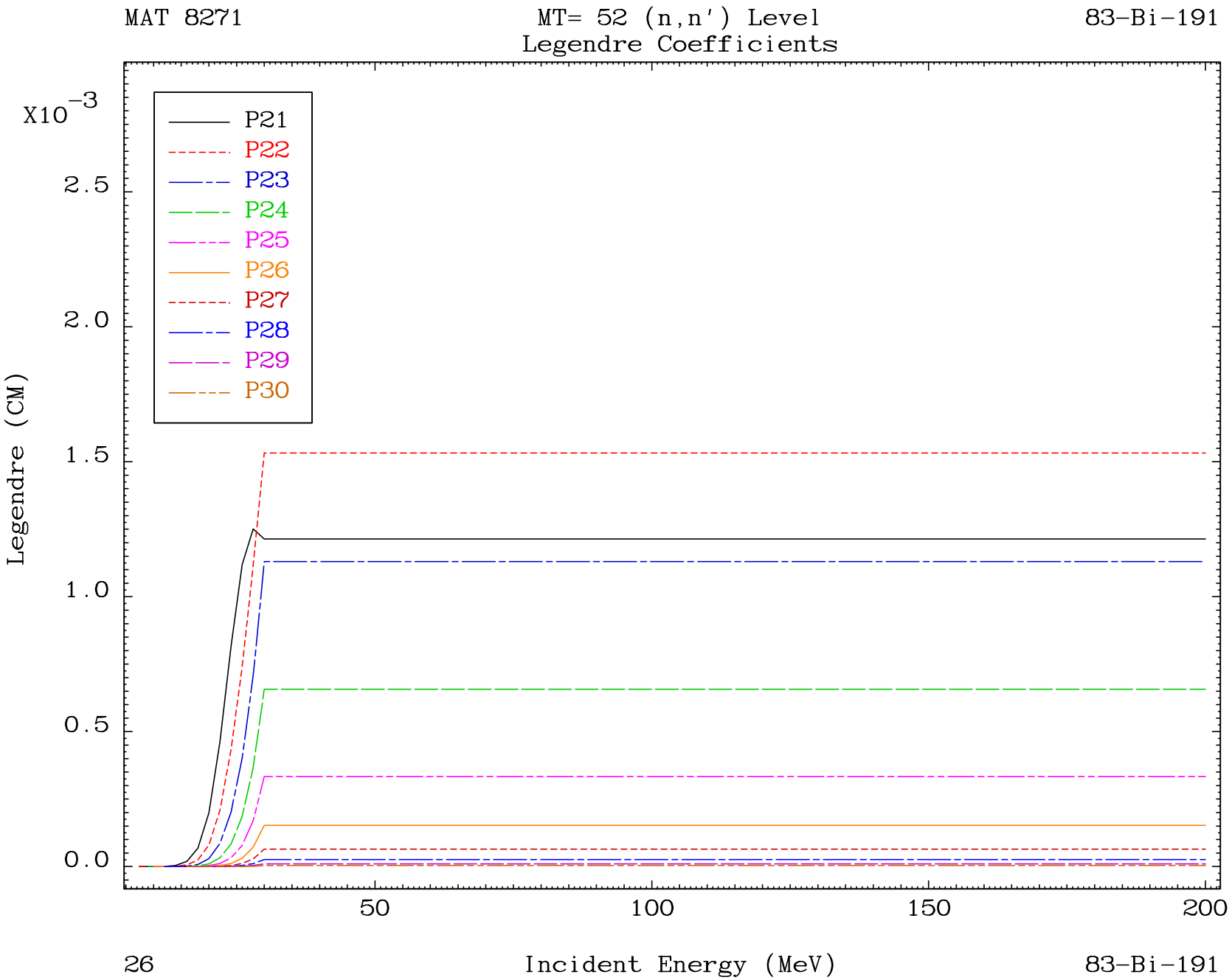

MAT 8271
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-191
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
21
Incident Energy (MeV)
83-Bi-191

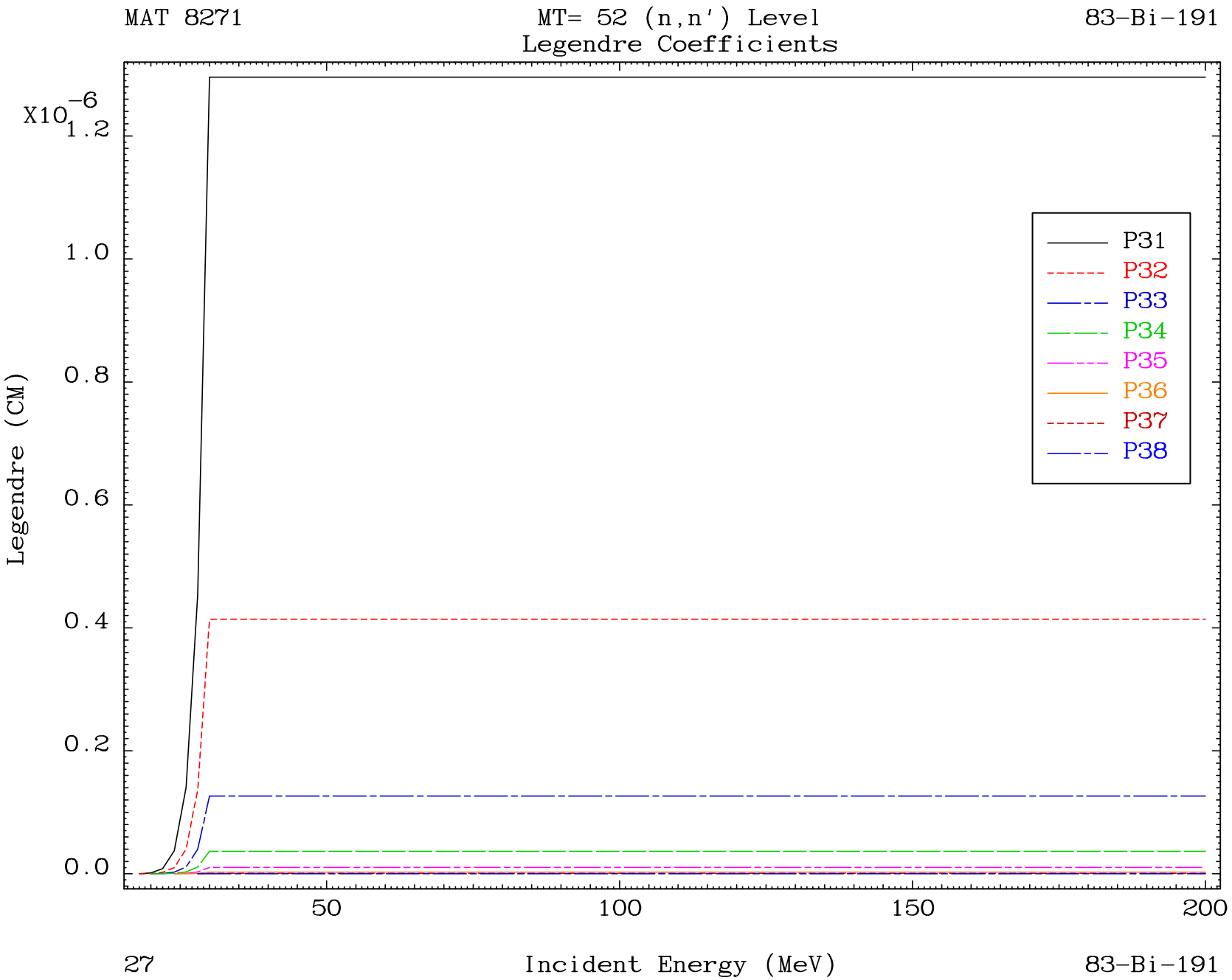

MAT 8271
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-191
X10^-3
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
22
Incident Energy (MeV)
83-Bi-191

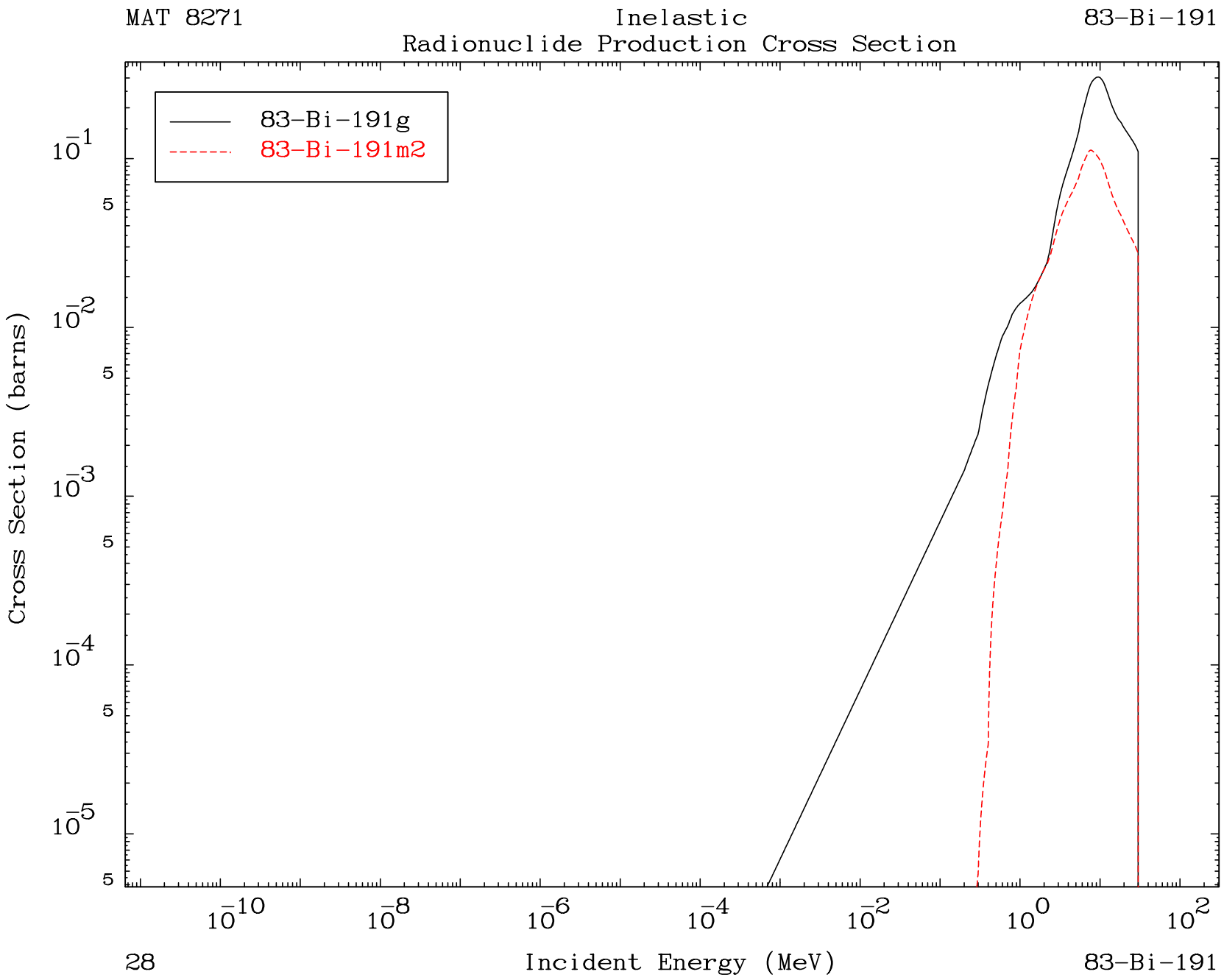

MAT 8271
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-191
X10 −6
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
23
Incident Energy (MeV)
83-Bi-191

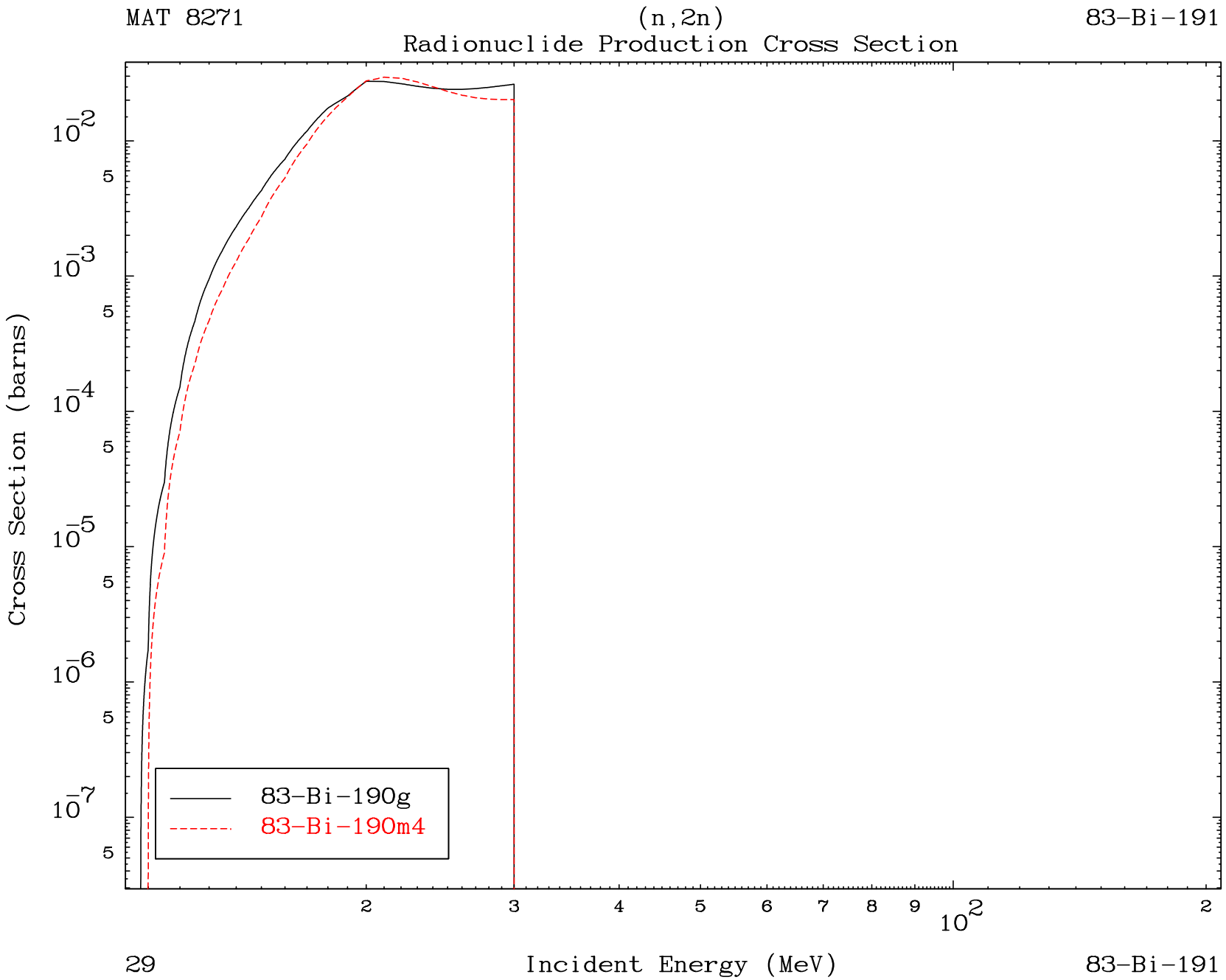

MAT 8271
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-191
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
0
50
100
150
200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
24
Incident Energy (MeV)
83-Bi-191

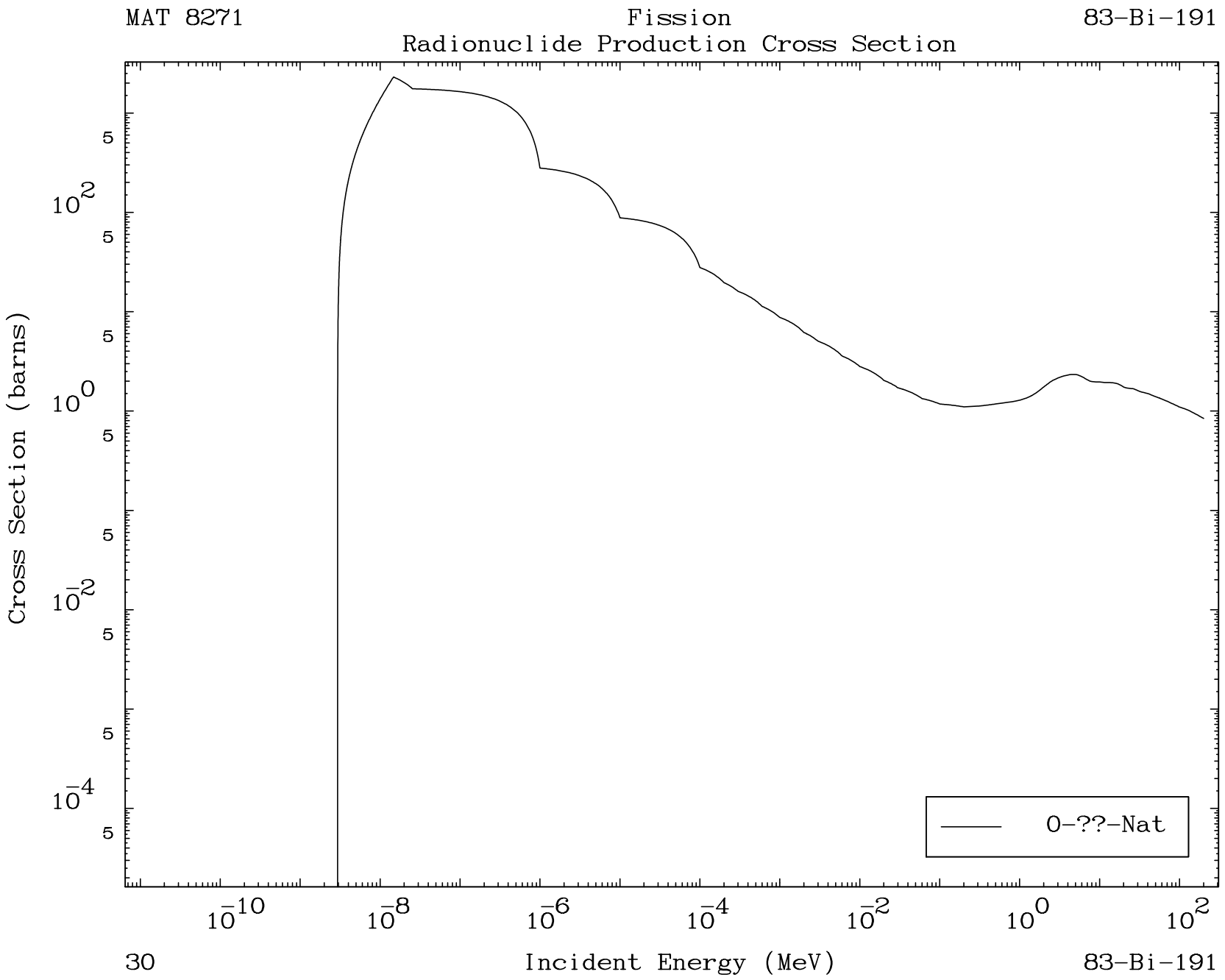

MAT 8271
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-191
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.03
0.02
0.01
0.00
Legendre (CM)
0
50
100
150
200
25
Incident Energy (MeV)
83-Bi-191

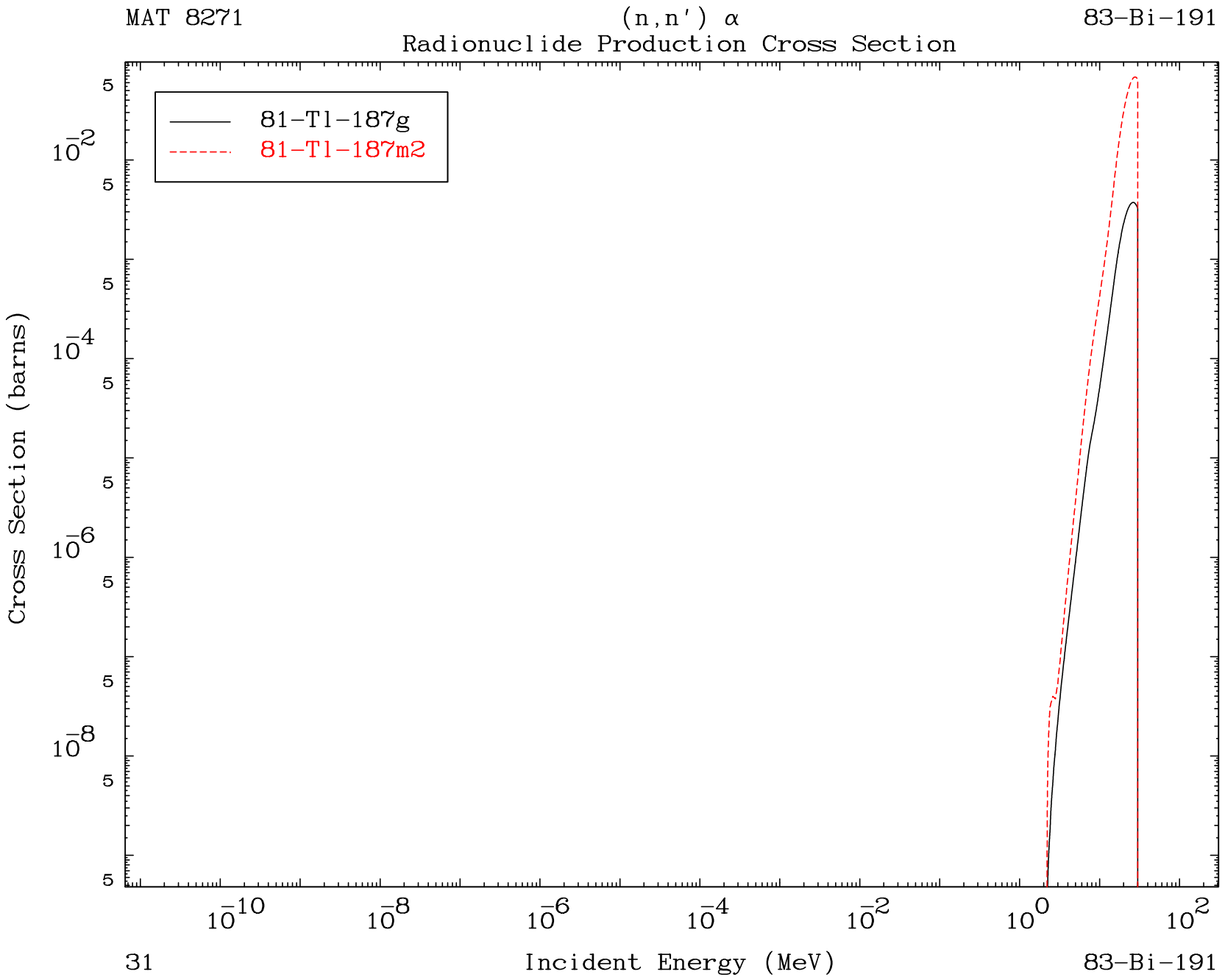

MAT 8271
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-191
X10^-3
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
26
Incident Energy (MeV)
83-Bi-191

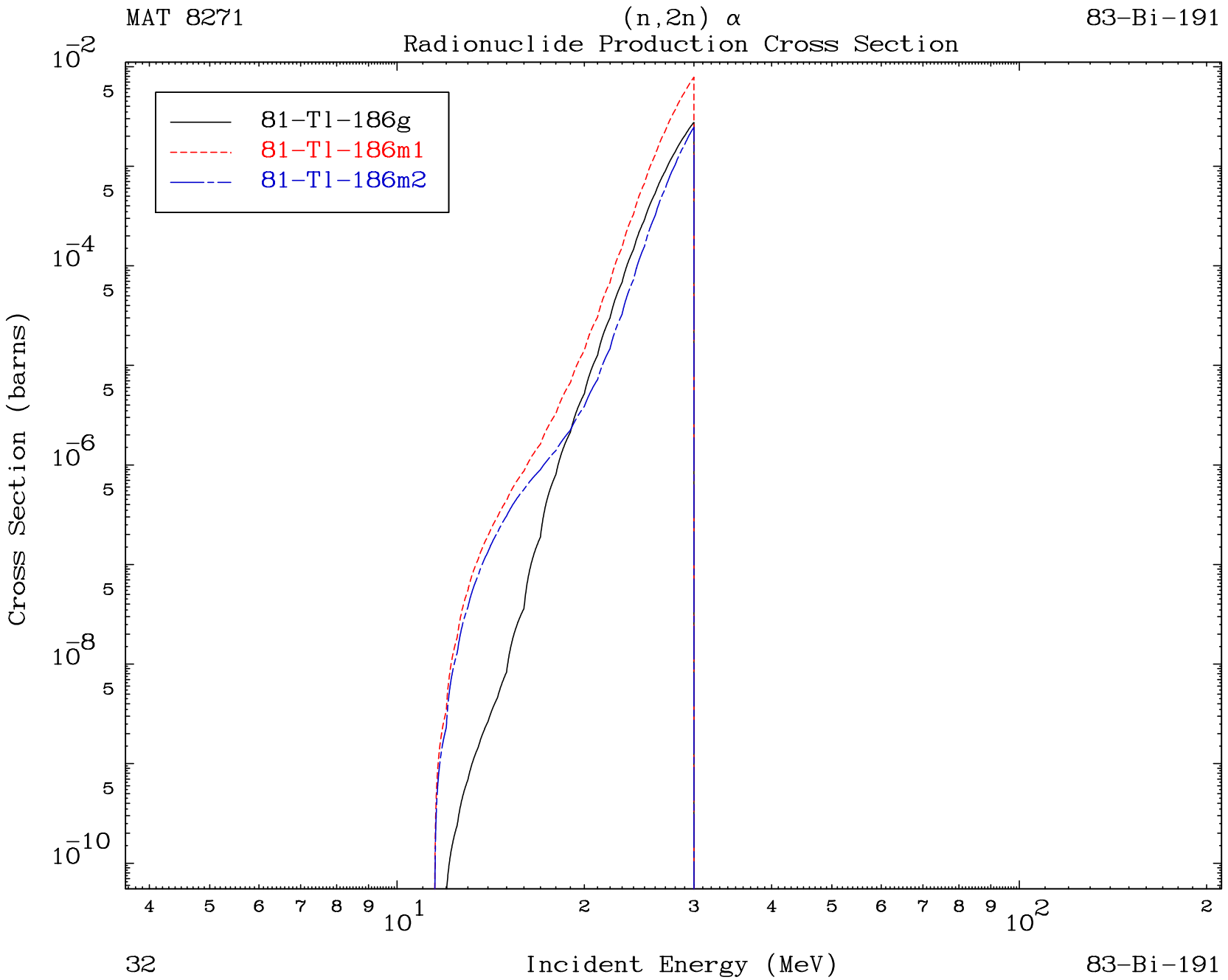

MAT 8271
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-191
X10^-6
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
27
Incident Energy (MeV)
83-Bi-191

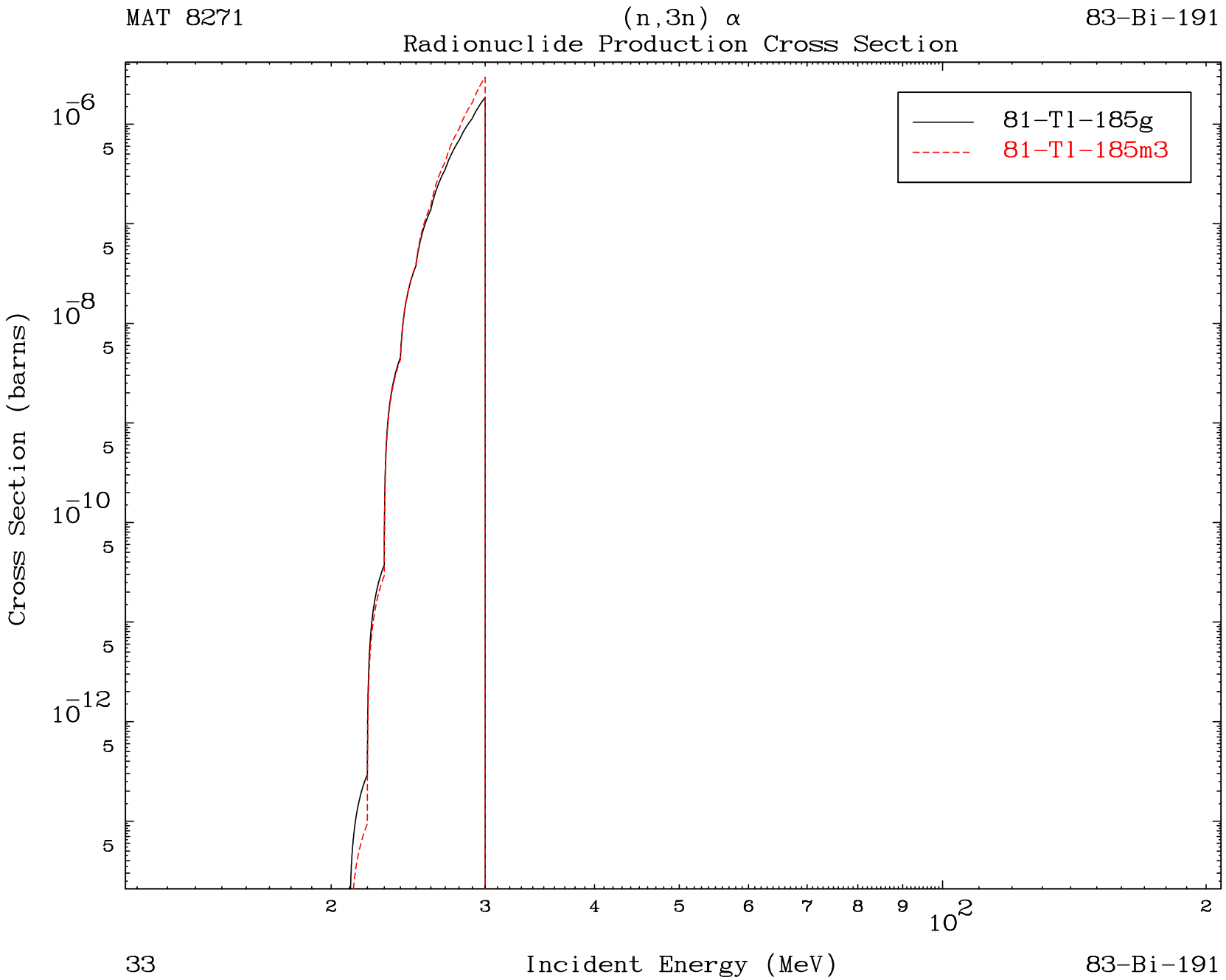

MAT 8271
Inelastic
83-Bi-191
Radionuclide Production Cross Section
83-Bi-191g
83-Bi-191m2
Cross Section (barns)
Incident Energy (MeV)
28
83-Bi-191

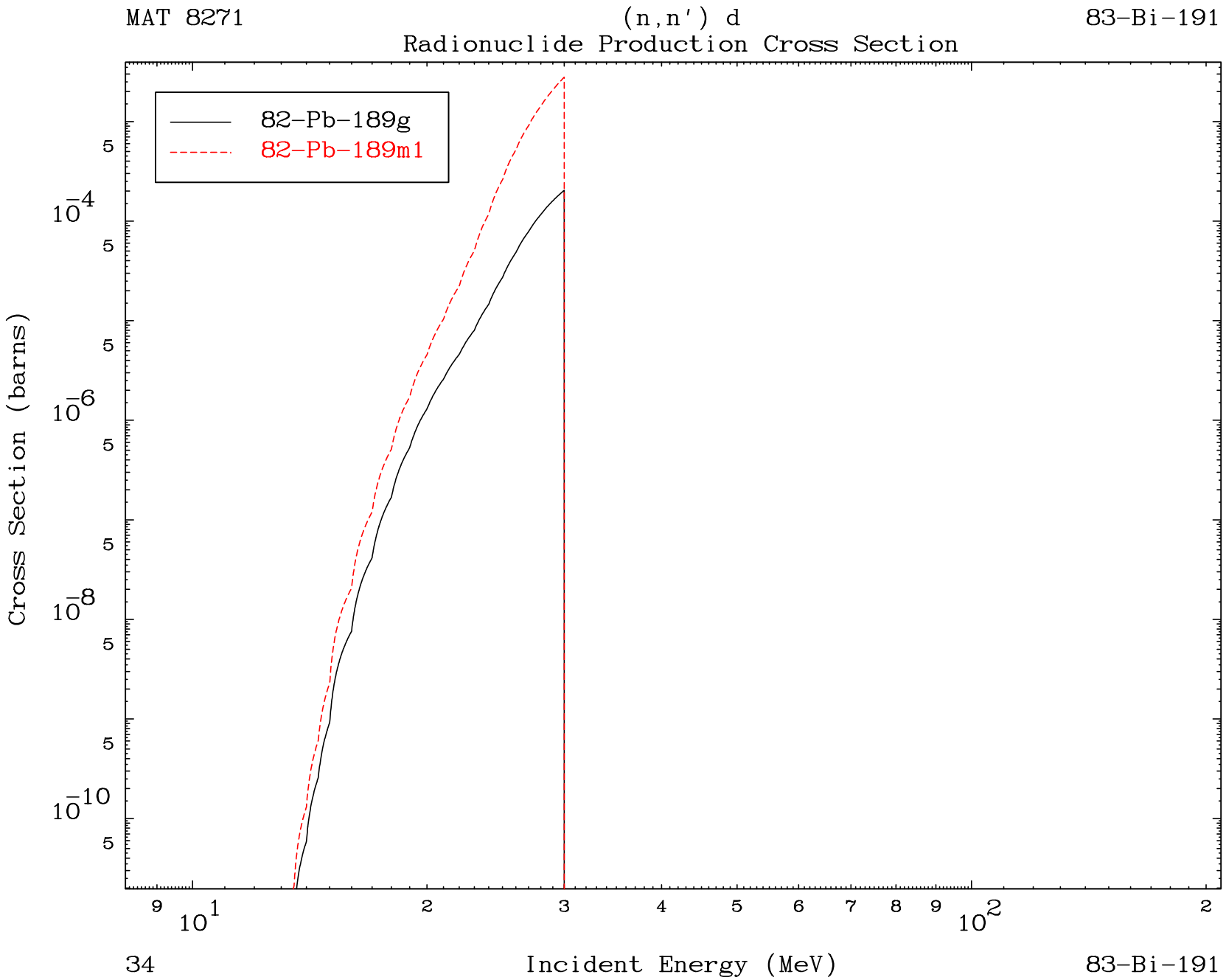

MAT 8271
(n,2n)
83-Bi-191
Radionuclide Production Cross Section
Cross Section (barns)
10-2
5
10-3
5
10-4
5
10-5
5
10-6
5
10-7
5
83-Bi-190g
83-Bi-190m4
2
3
4
5
6
7
8
9
10 2
2
29
Incident Energy (MeV)
83-Bi-191

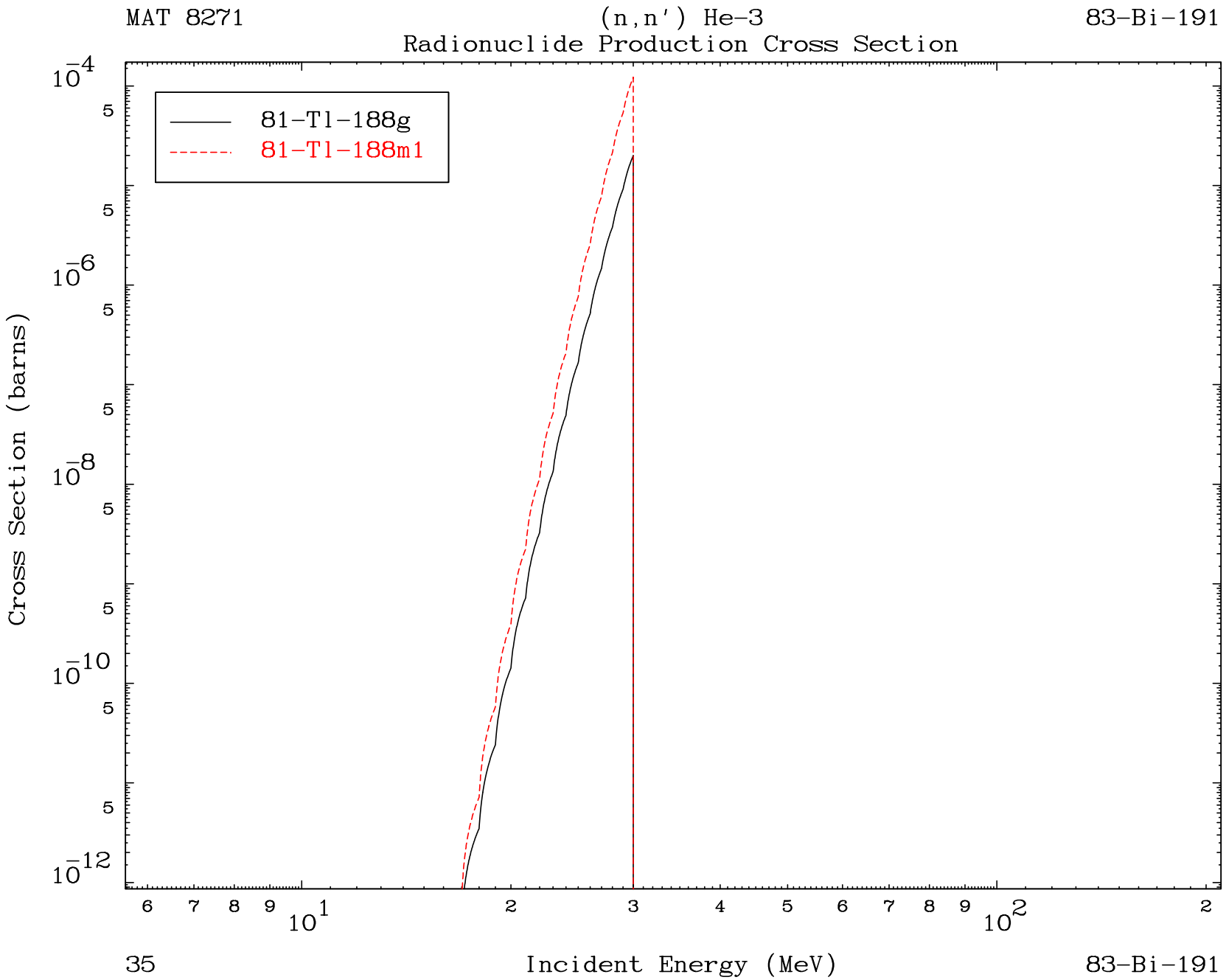

MAT 8271
Fission
83-Bi-191
Radionuclide Production Cross Section
Cross Section (barns)
10^2
10^0
10^-2
10^-4
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
0-??-Nat
30
Incident Energy (MeV)
83-Bi-191

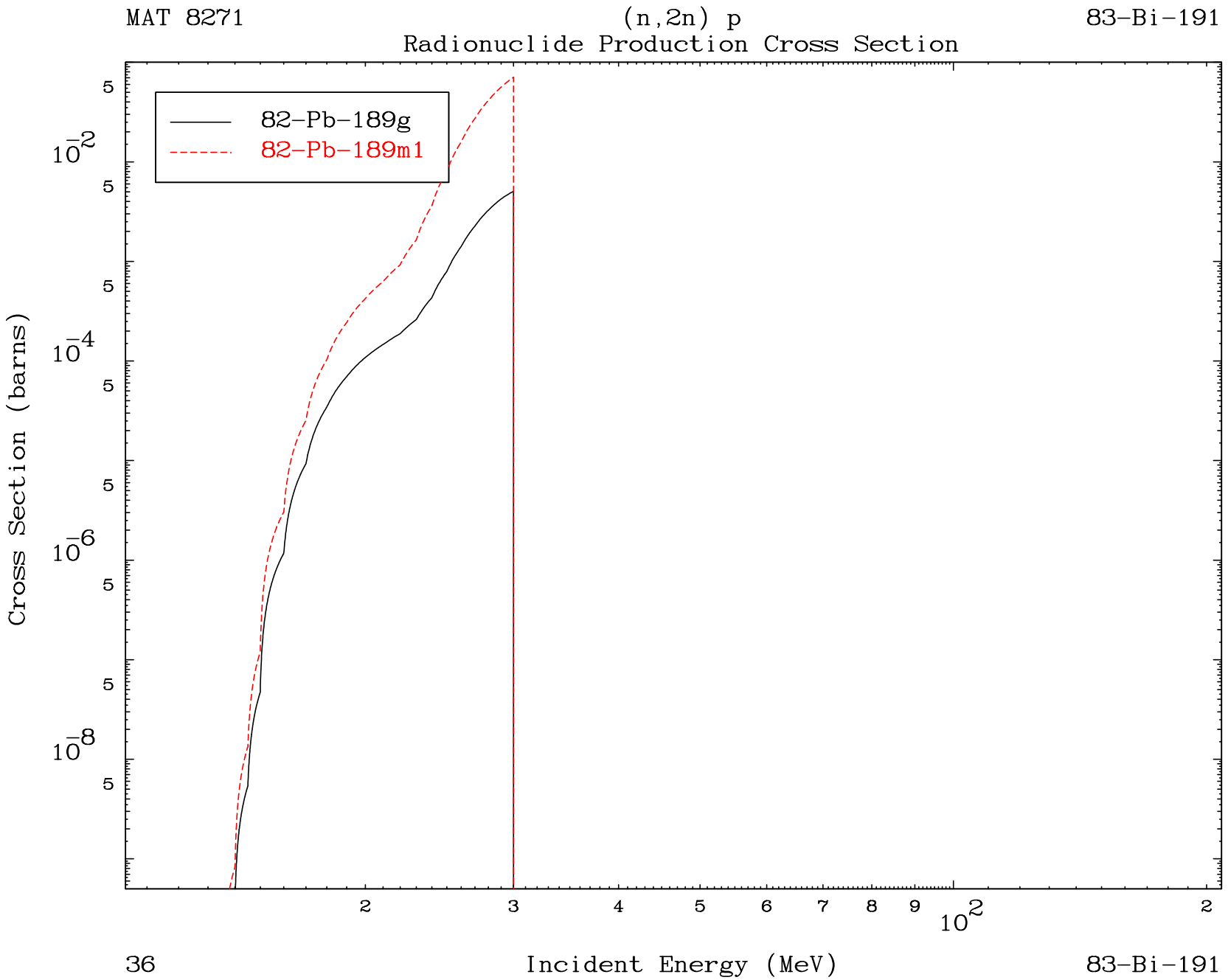

MAT 8271
(n,n') α
83-Bi-191
Radionuclide Production Cross Section
81-Tl-187g
81-Tl-187m2
Cross Section (barns)
Incident Energy (MeV)
31
83-Bi-191

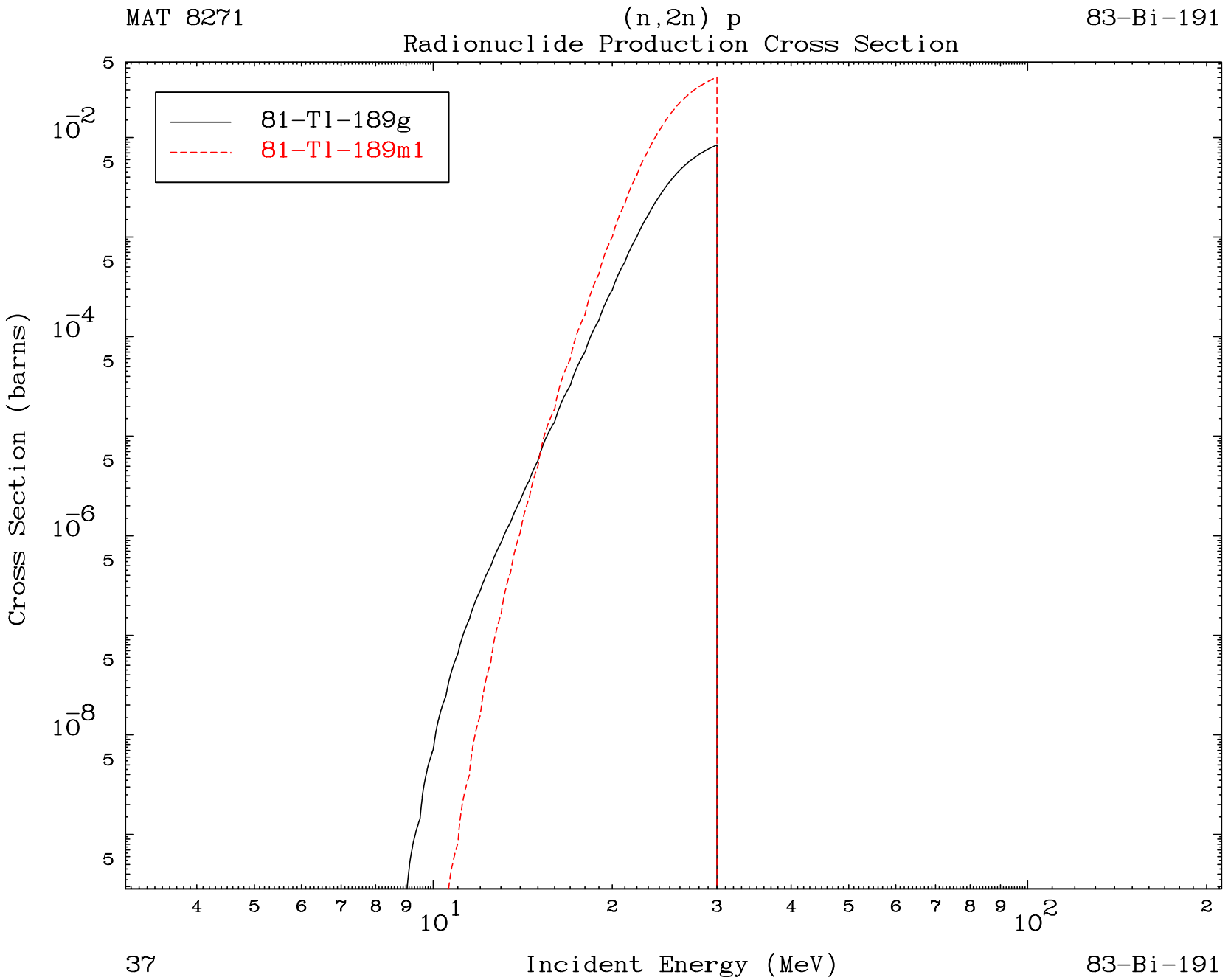

MAT 8271
(n,2n) α
83-Bi-191
Radionuclide Production Cross Section
81-Tl-186g
81-Tl-186m1
81-Tl-186m2
Cross Section (barns)
Incident Energy (MeV)
32
83-Bi-191

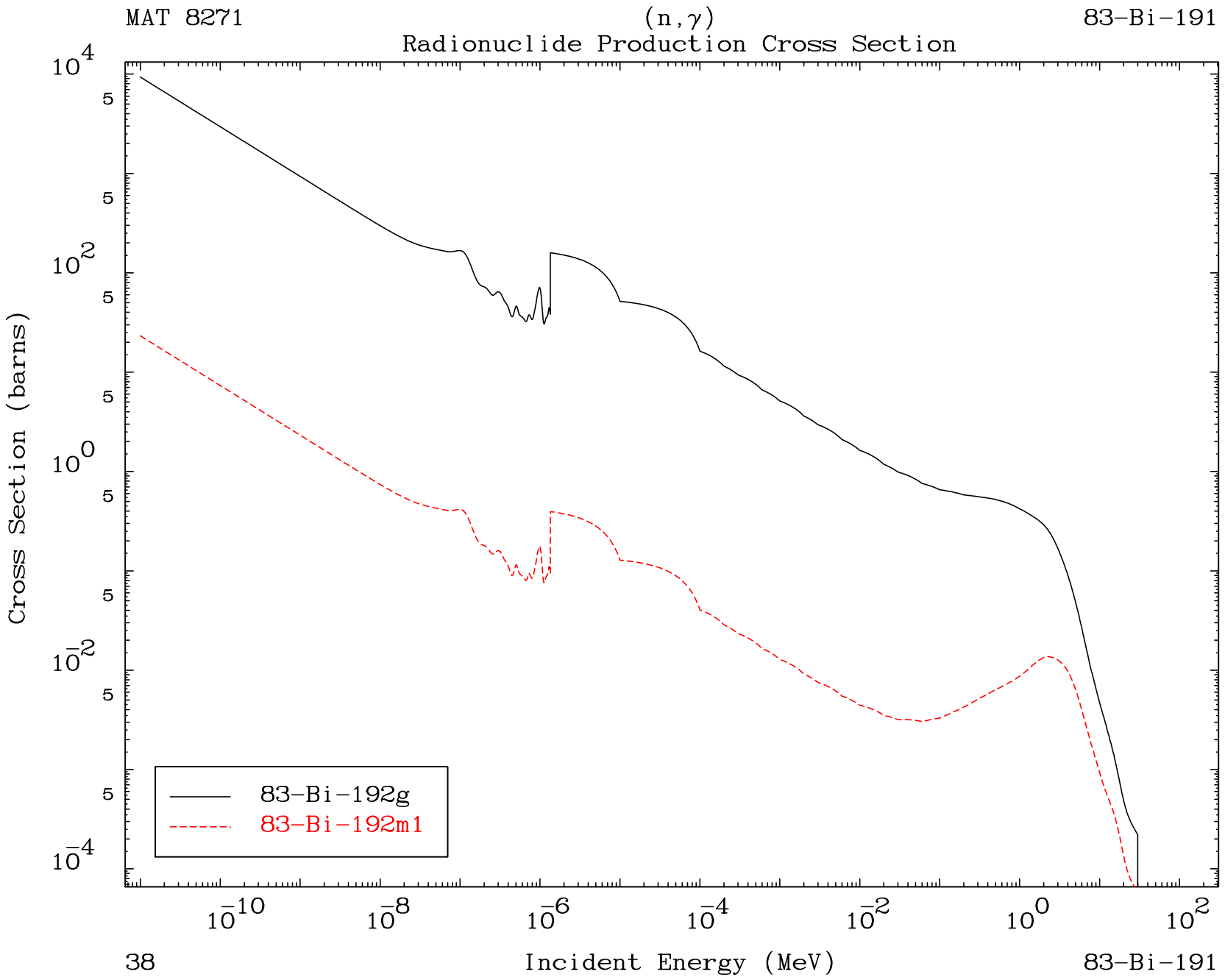

MAT 8271
(n,3n) α
83-Bi-191
Radionuclide Production Cross Section
81-Tl-185g
81-Tl-185m3
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
2
3
4
5
6
7
8
9
10^2
2
33
Incident Energy (MeV)
83-Bi-191

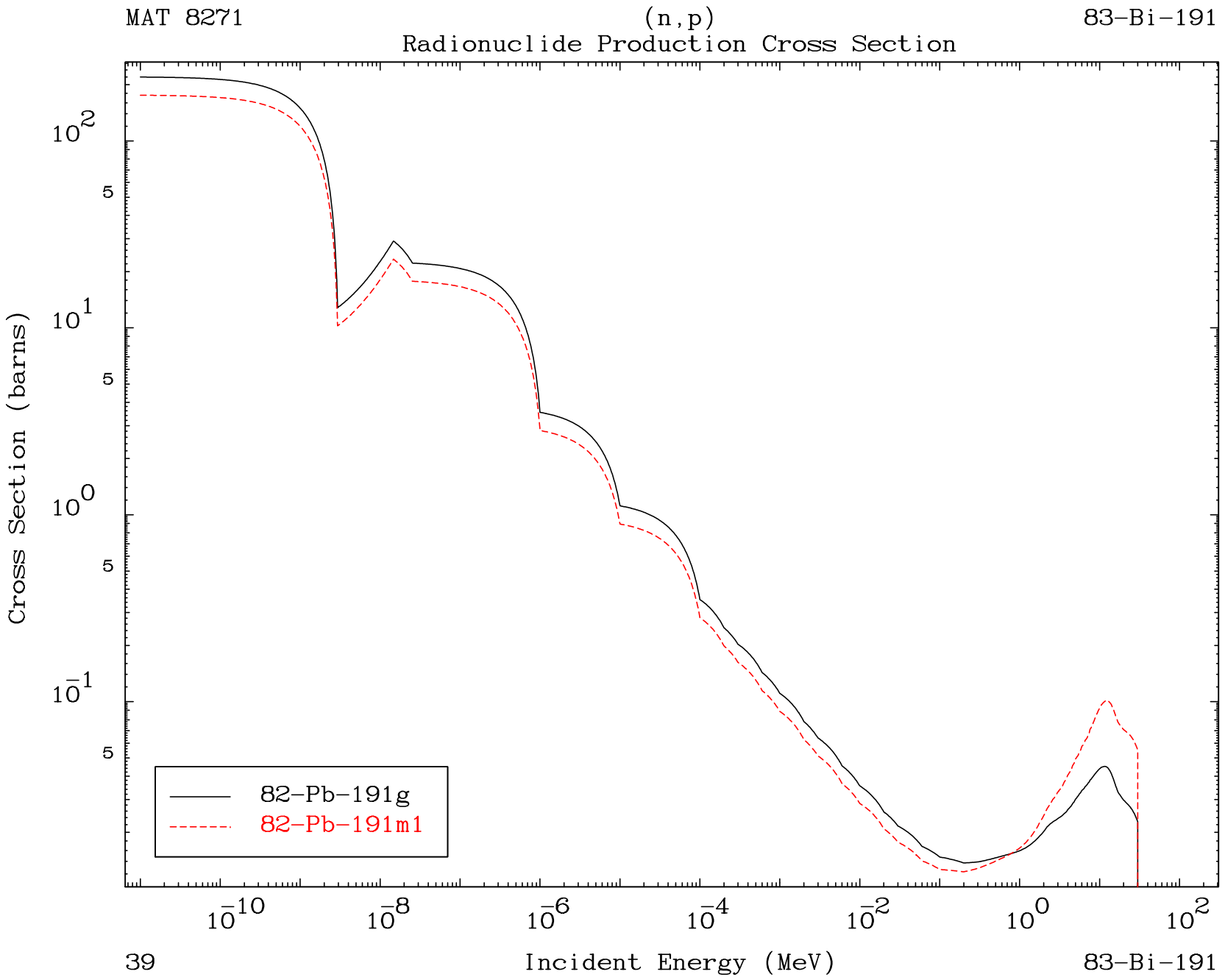

MAT 8271
(n,n') d
83-Bi-191
Radionuclide Production Cross Section
82-Pb-189g
82-Pb-189m1
Cross Section (barns)
10-4
10-6
10-8
10-10
5
9
10 1
2
3
4
5
6
7
8
9
10 2
2
34
Incident Energy (MeV)
83-Bi-191

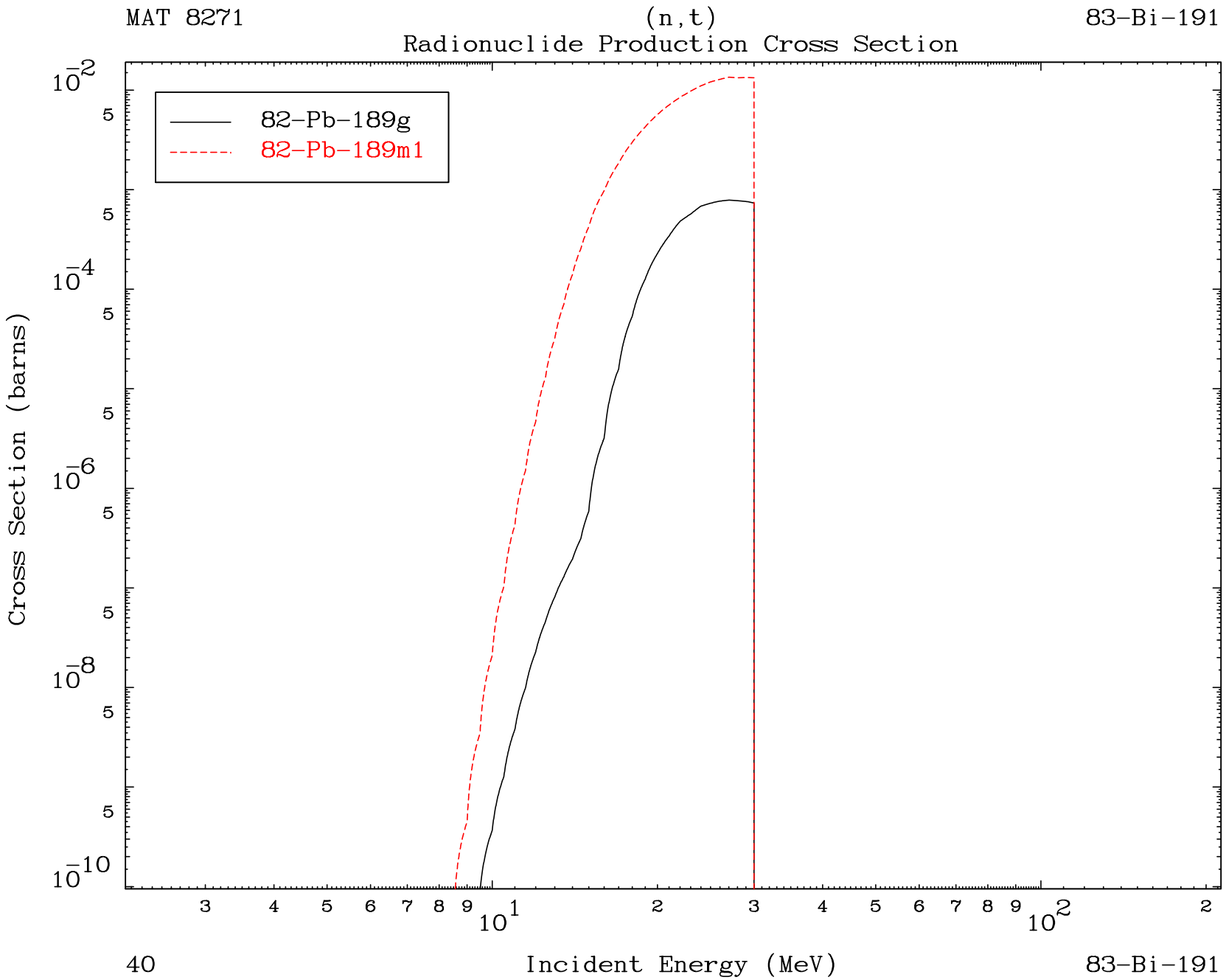

MAT 8271
(n,n') He-3
83-Bi-191
Radionuclide Production Cross Section
81-Tl-188g
81-Tl-188m1
Cross Section (barns)
Incident Energy (MeV)
35
83-Bi-191

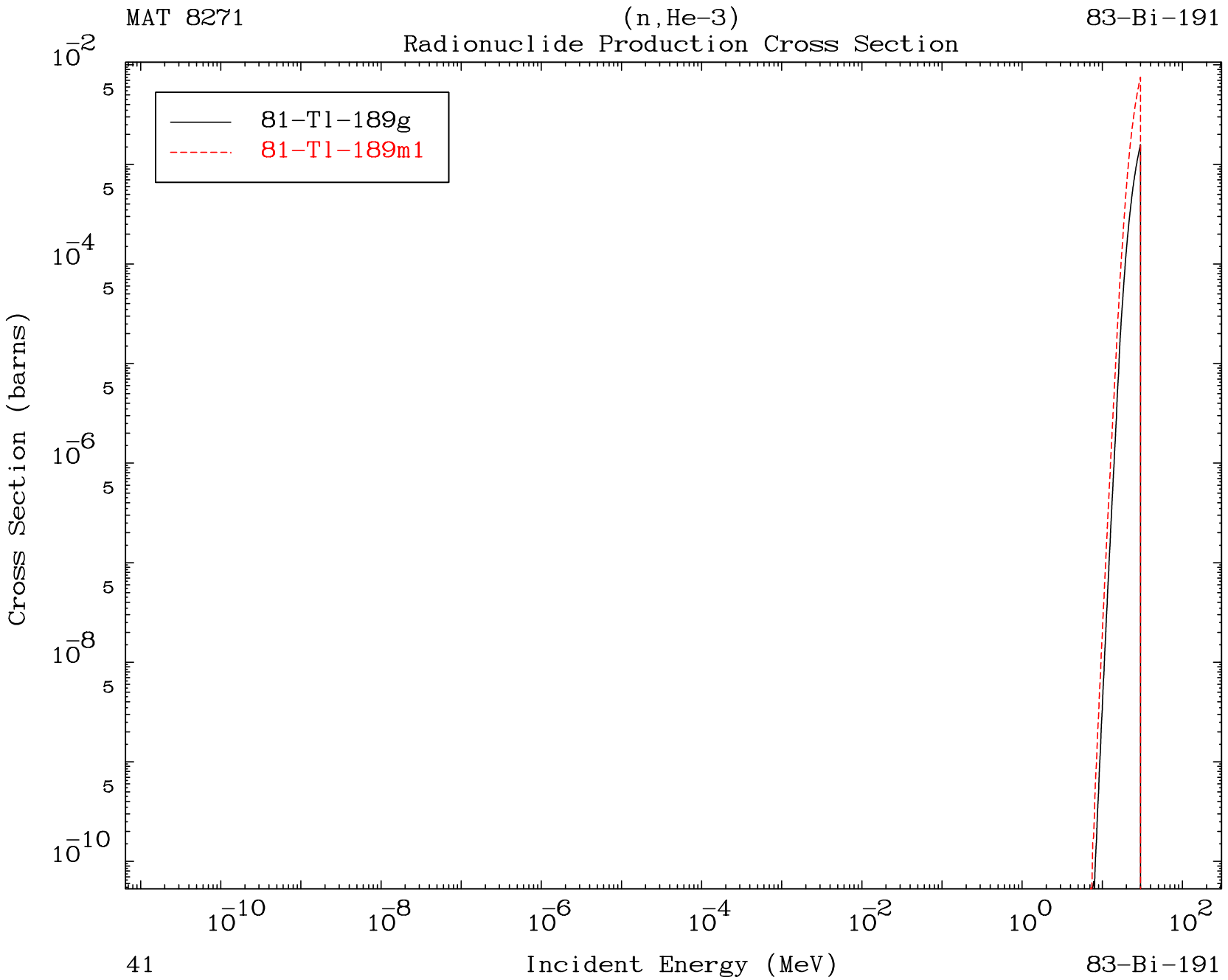

MAT 8271
(n,2n) p
83-Bi-191
Radionuclide Production Cross Section
82-Pb-189g
82-Pb-189m1
Cross Section (barns)
10-2
10-4
10-6
10-8
5
2
3
4
5
6
7
8
9
10 2
2
36
Incident Energy (MeV)
83-Bi-191

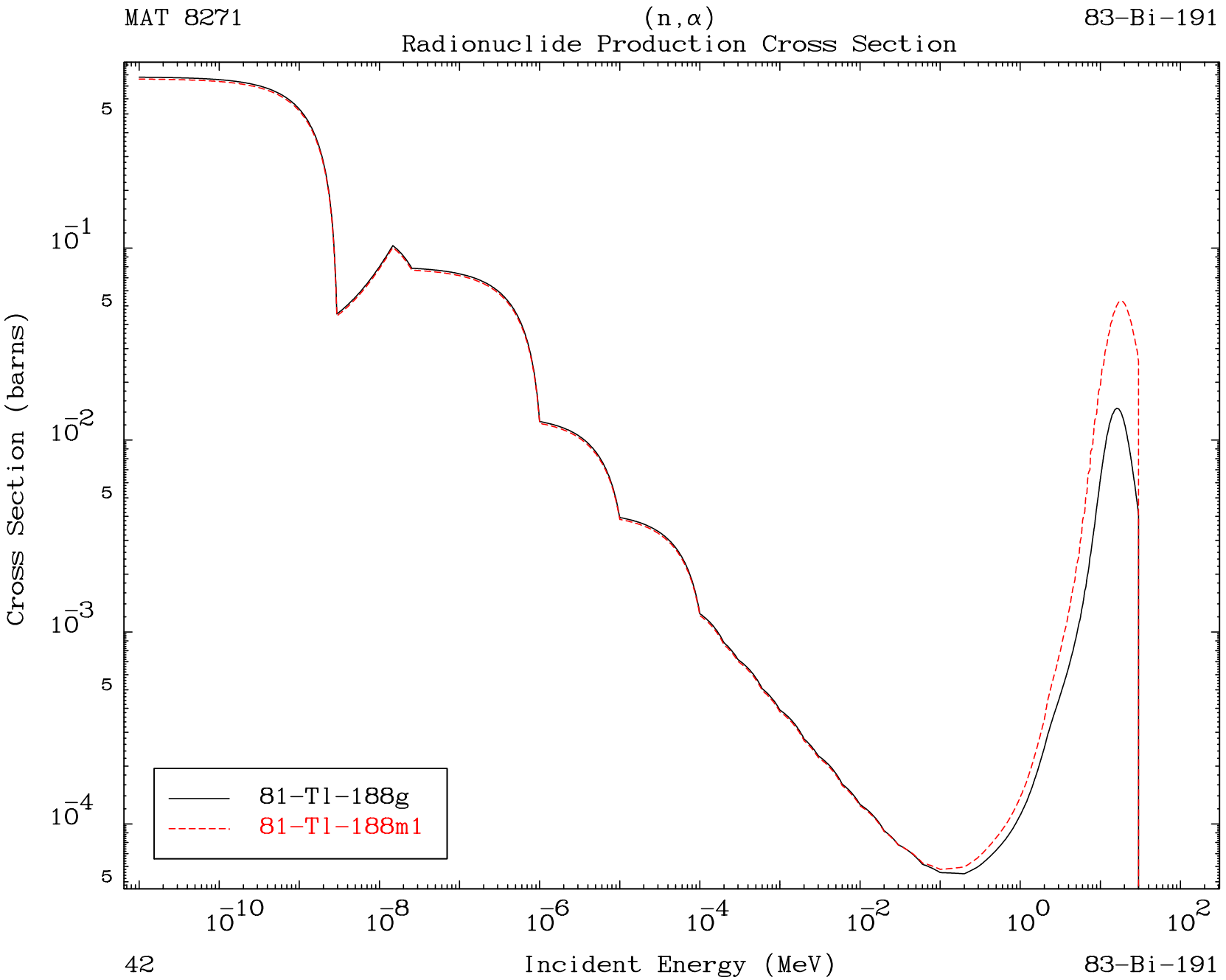

MAT 8271
(n,2n) p
83-Bi-191
Radionuclide Production Cross Section
81-Tl-189g
81-Tl-189m1
Cross Section (barns)
Incident Energy (MeV)
37
83-Bi-191

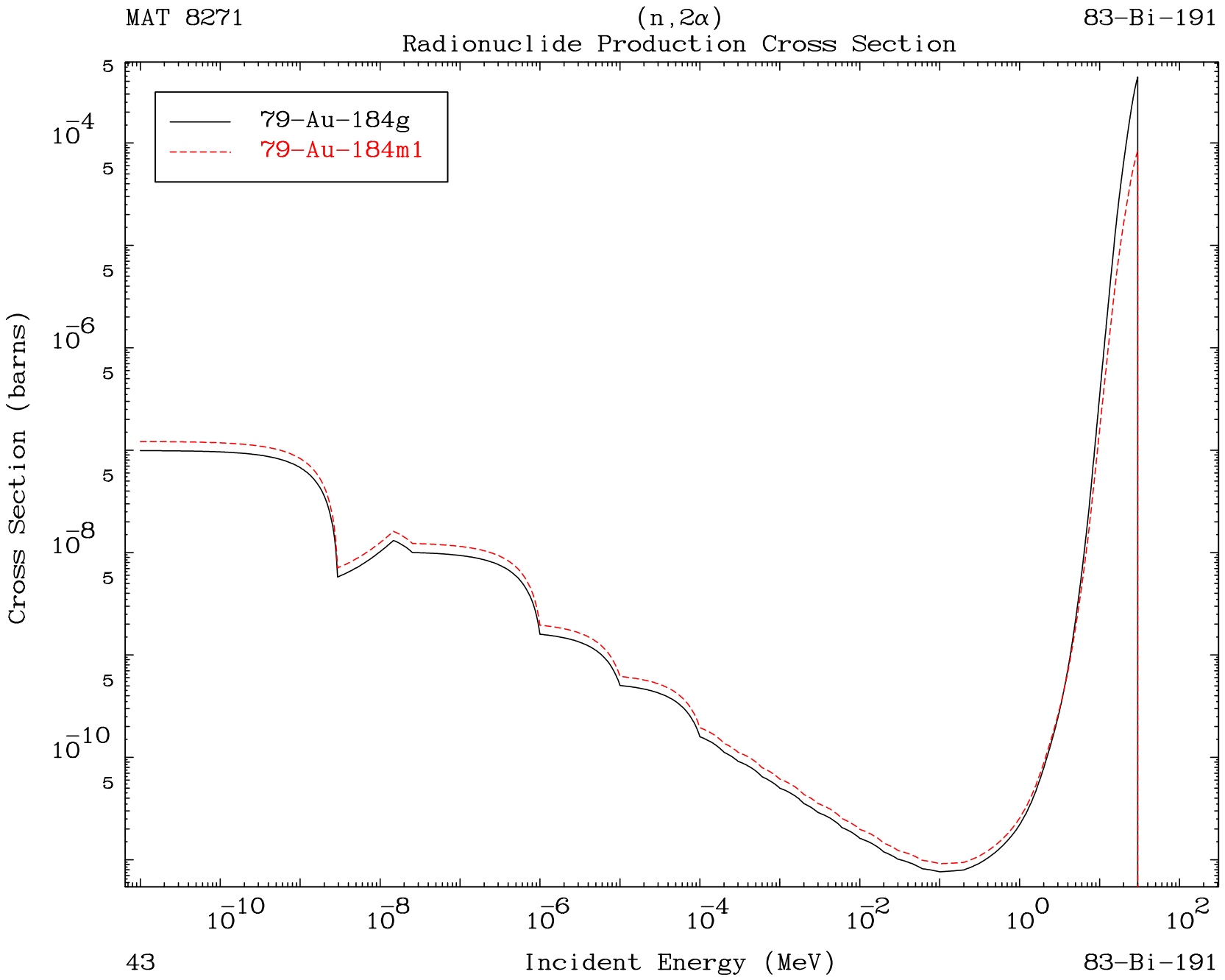

MAT 8271
(n,γ)
83-Bi-191
Radionuclide Production Cross Section
Cross Section (barns)
10^4
10^2
10^0
10^-2
10^-4
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
83-Bi-192g
83-Bi-192m1
38
Incident Energy (MeV)
83-Bi-191

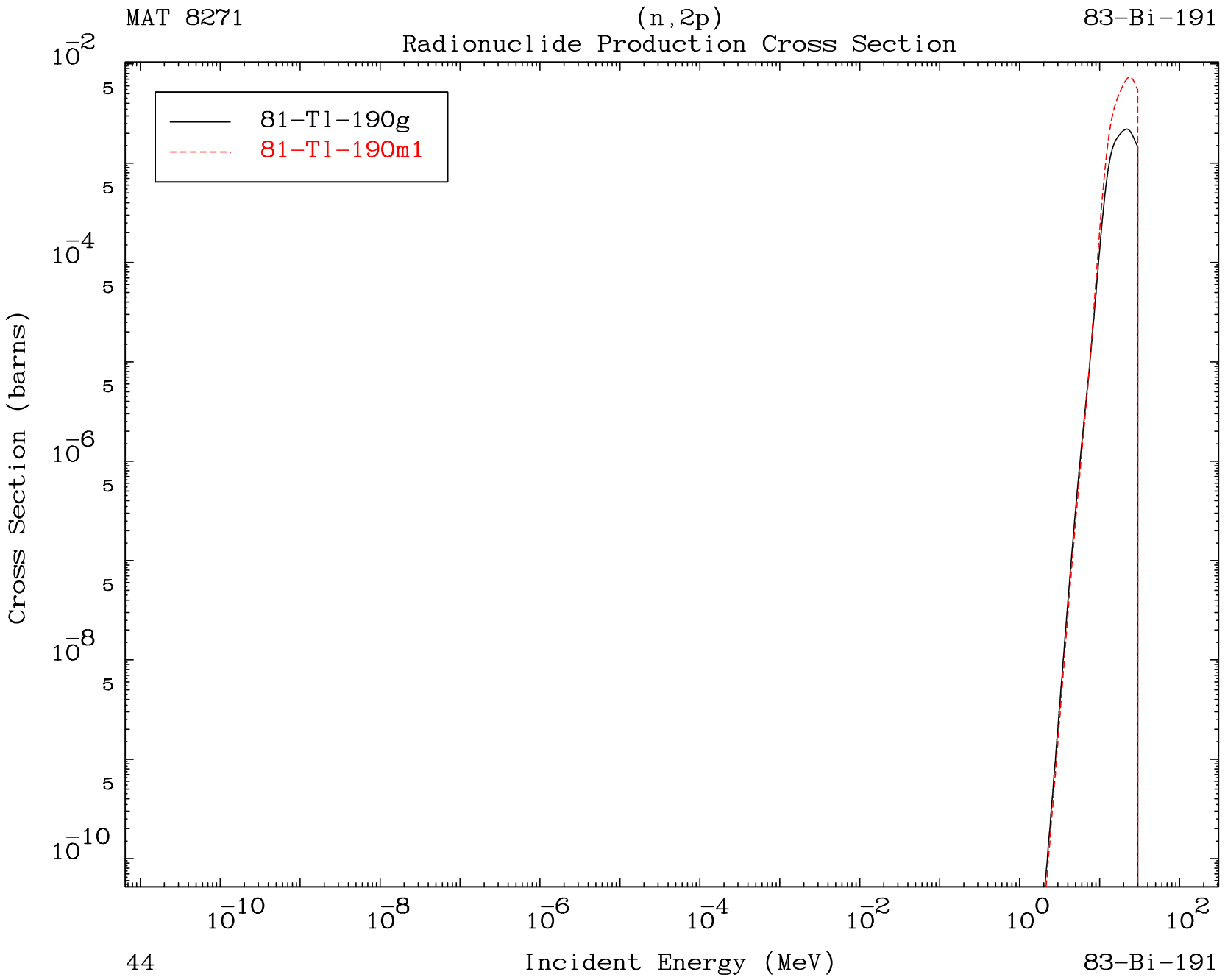

MAT 8271
(n,p)
83-Bi-191
Radionuclide Production Cross Section
Cross Section (barns)
10^2
5
10^1
5
10^0
5
10^-1
5
82-Pb-191g
82-Pb-191m1
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
39
Incident Energy (MeV)
83-Bi-191

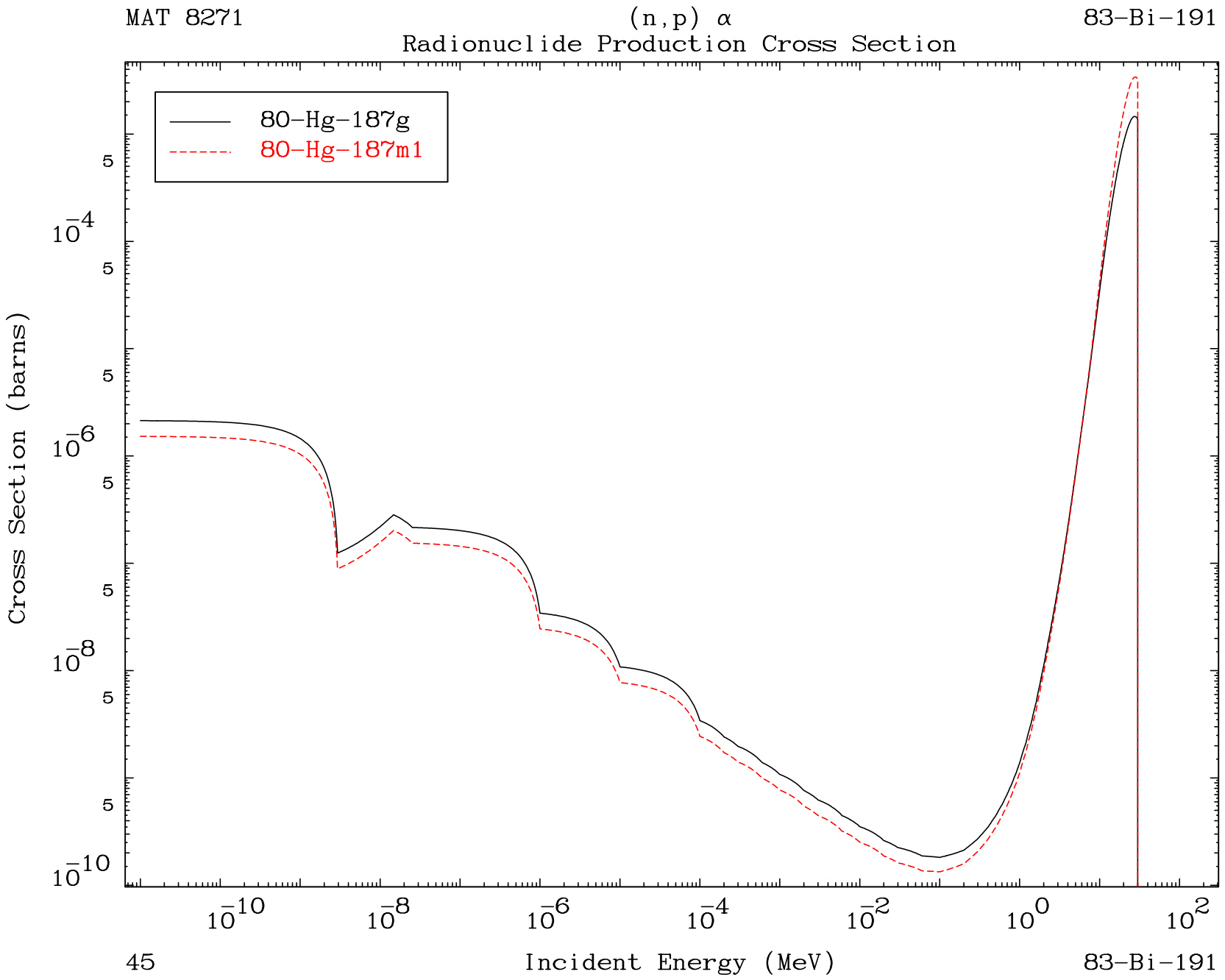

MAT 8271
(n,t)
83-Bi-191
Radionuclide Production Cross Section
82-Pb-189g
82-Pb-189m1
Cross Section (barns)
Incident Energy (MeV)
40
83-Bi-191

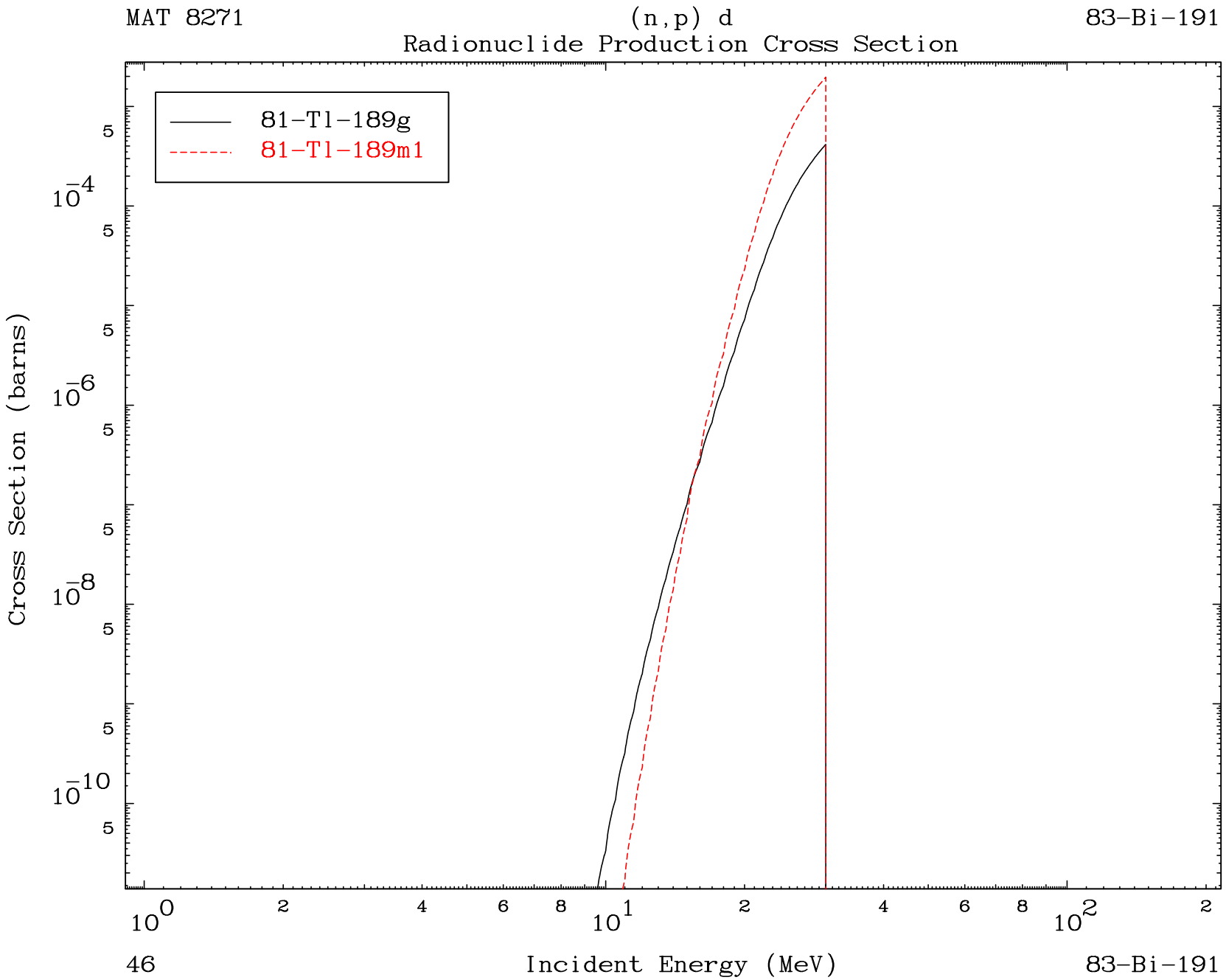

MAT 8271
(n,He-3)
83-Bi-191
Radionuclide Production Cross Section
81-Tl-189g
81-Tl-189m1
Cross Section (barns)
Incident Energy (MeV)
41
83-Bi-191

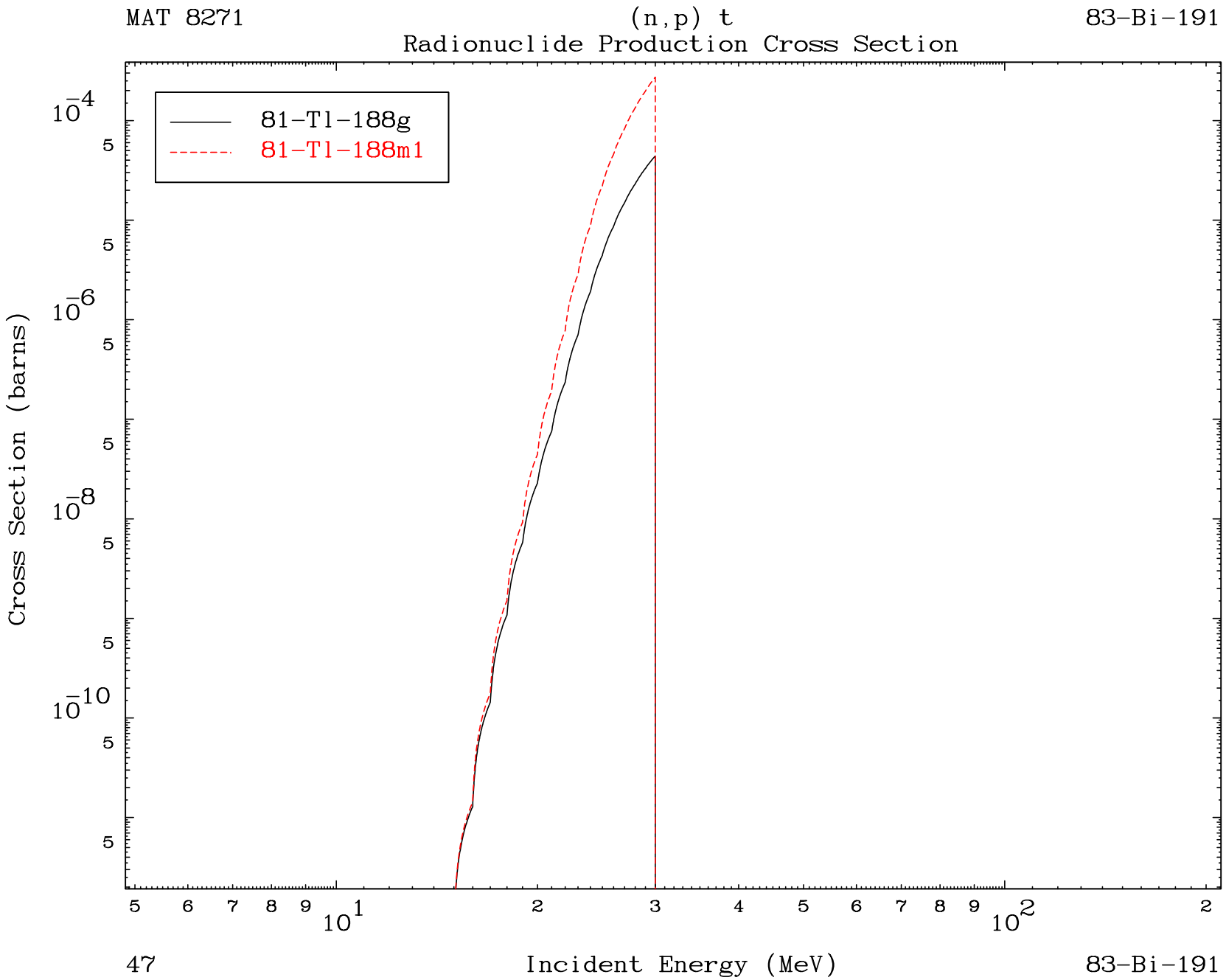

MAT 8271
(n,α)
83-Bi-191
Radionuclide Production Cross Section
Cross Section (barns)
5
10-1
5
10-2
5
10-3
5
10-4
5
81-Tl-188g
81-Tl-188m1
10-10
10-8
10-6
10-4
10-2
100
102
42
Incident Energy (MeV)
83-Bi-191


MAT 8271
(n,2α)
83-Bi-191
Radionuclide Production Cross Section
79-Au-184g
79-Au-184m1
Cross Section (barns)
Incident Energy (MeV)
43
83-Bi-191


MAT 8271
(n,2p)
83-Bi-191
Radionuclide Production Cross Section
81-Tl-190g
81-Tl-190m1
Cross Section (barns)
Incident Energy (MeV)
44
83-Bi-191


MAT 8271
(n,p) α
83-Bi-191
Radionuclide Production Cross Section
80-Hg-187g
80-Hg-187m1
Cross Section (barns)
Incident Energy (MeV)
45
83-Bi-191


MAT 8271
(n,p) d
83-Bi-191
Radionuclide Production Cross Section
81-Tl-189g
81-Tl-189m1
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^0
10^1
10^2
Incident Energy (MeV)
46
83-Bi-191


MAT 8271
(n,p) t
83-Bi-191
Radionuclide Production Cross Section
81-Tl-188g
81-Tl-188m1
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
5
5
5
5
5
5
5 6 7 8 9 10^1 2 3 4 5 6 7 8 9 10^2 2
47
Incident Energy (MeV)
83-Bi-191