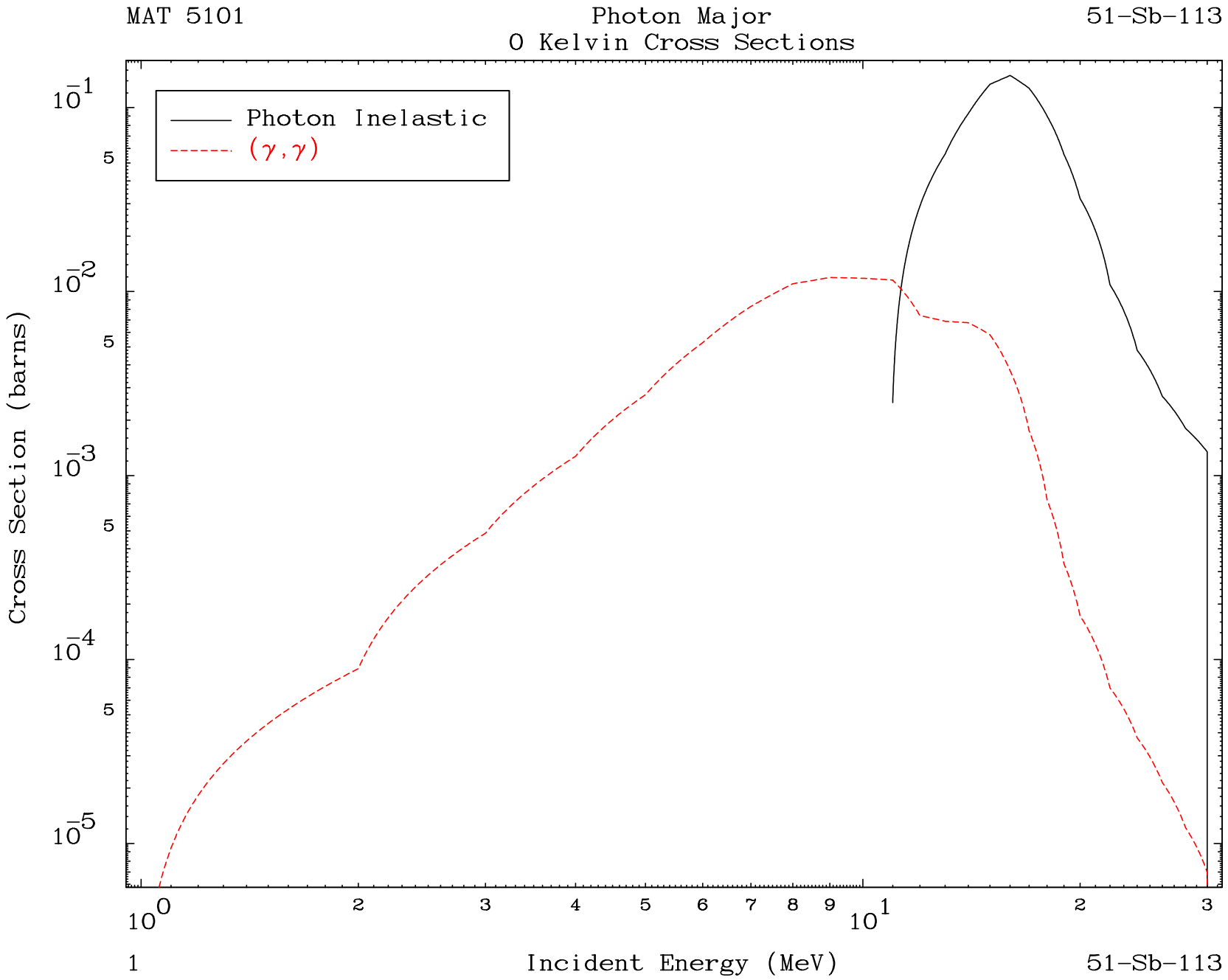
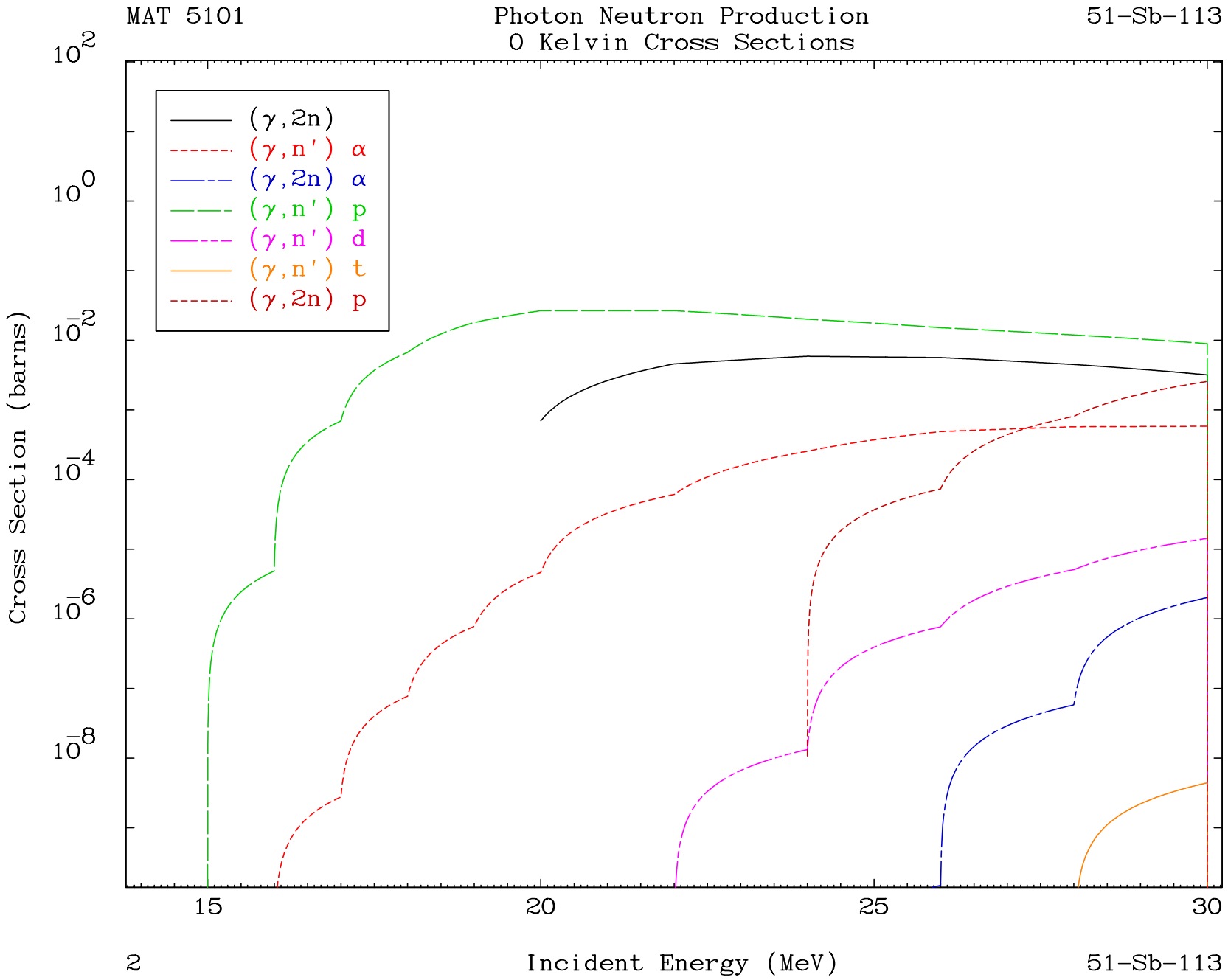
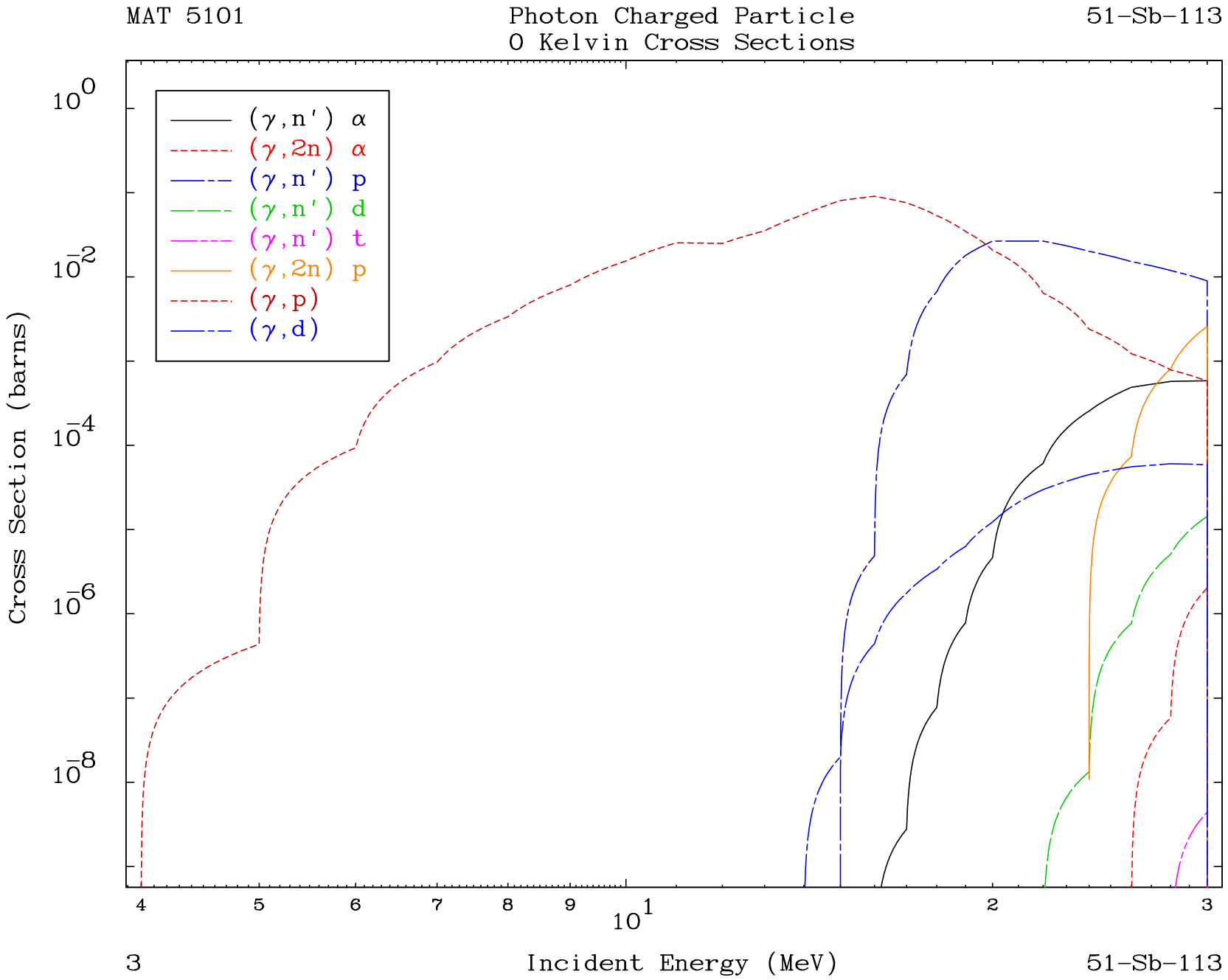
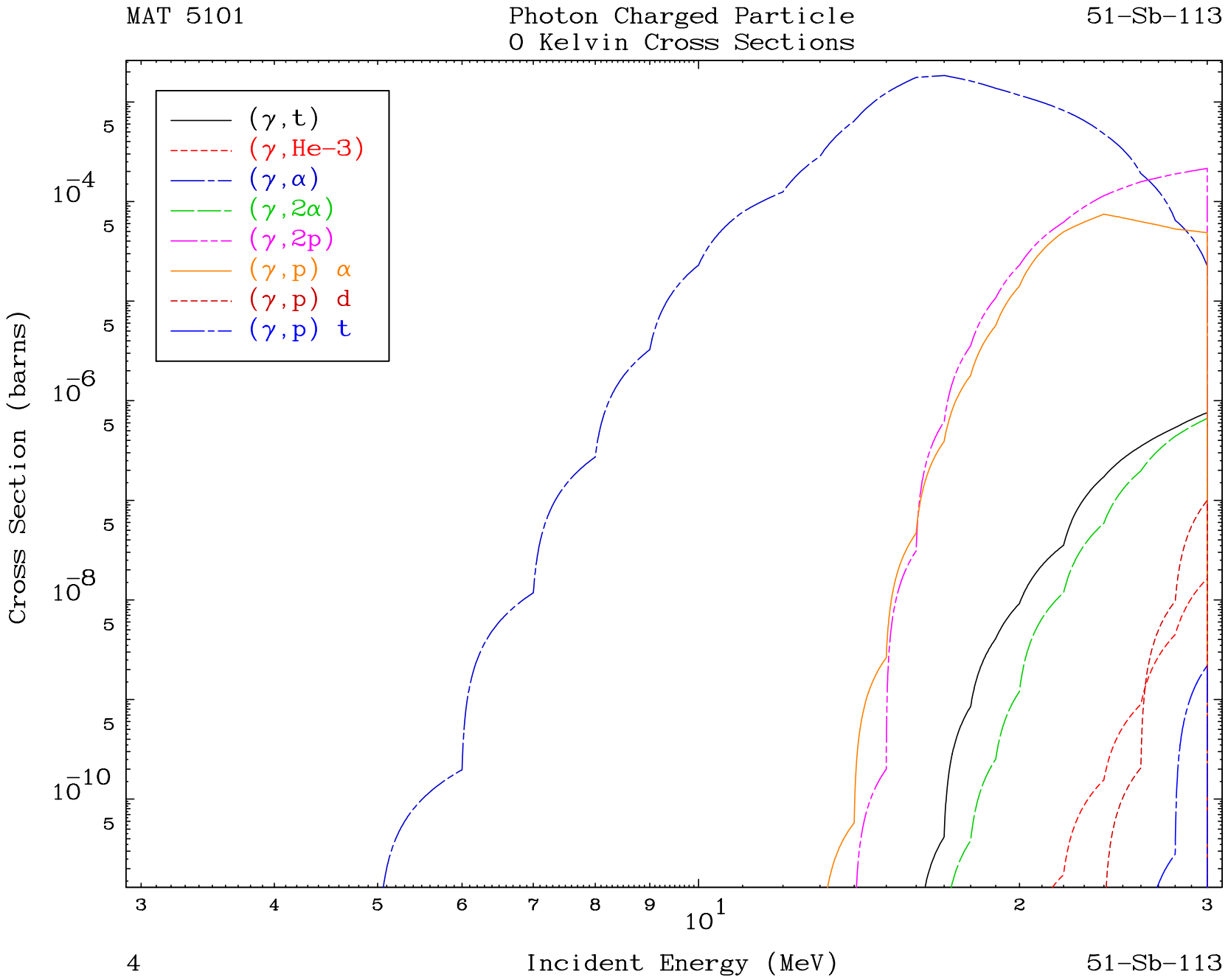
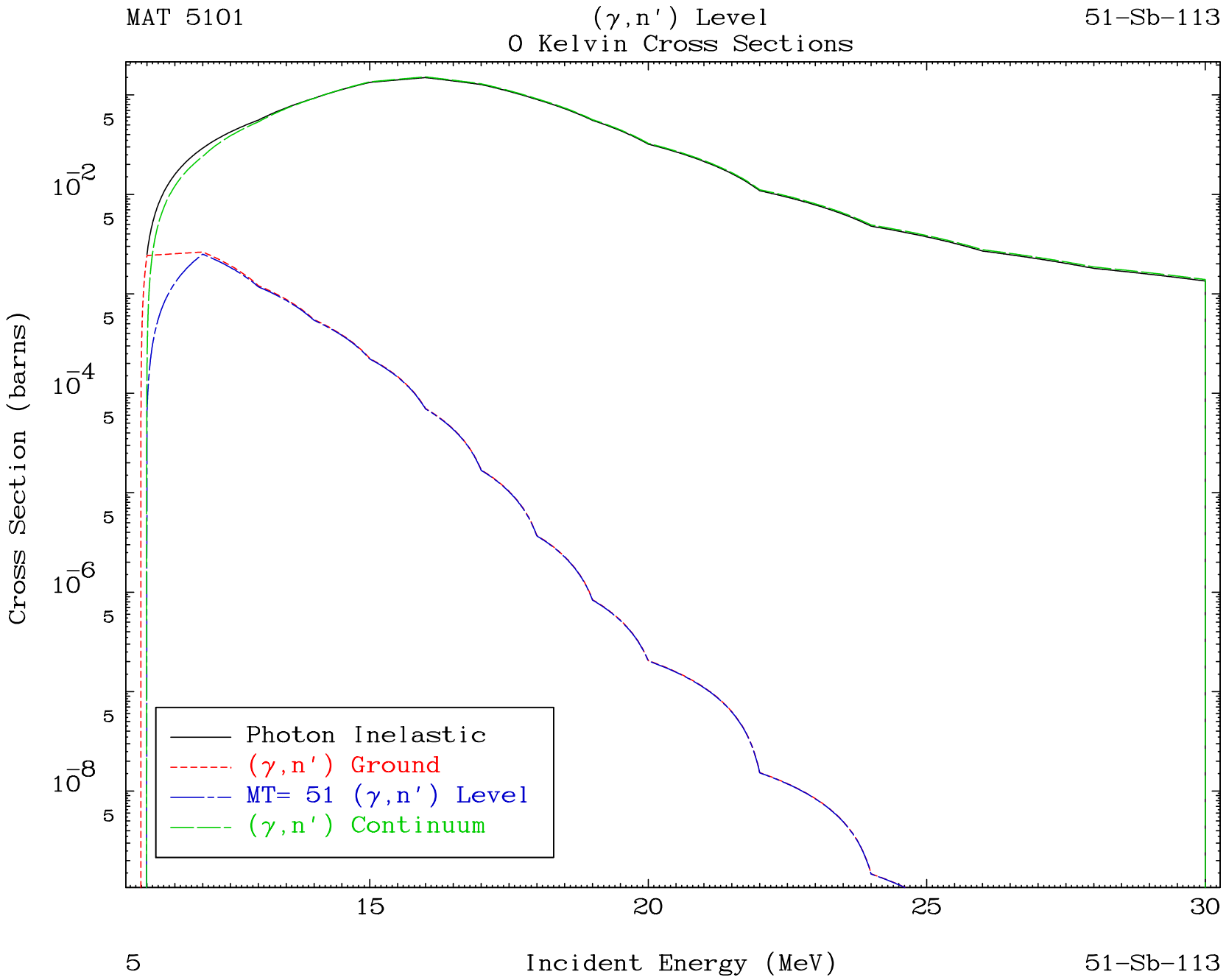
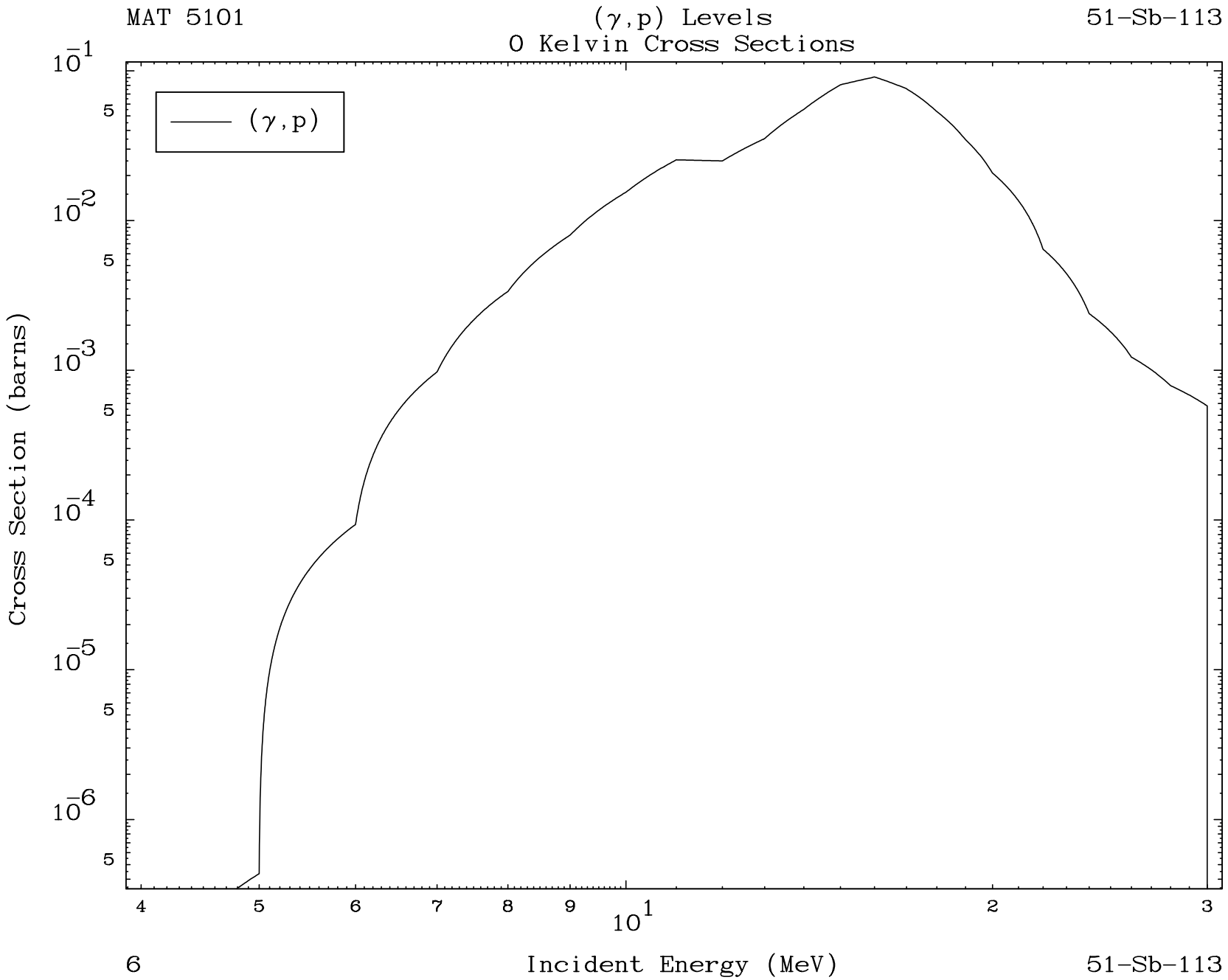

MAT 5101
Photon Major
0 Kelvin Cross Sections
51-Sb-113
Photon Inelastic
(γ,γ)
Cross Section (barns)
10-1
5
10-2
5
10-3
5
10-4
5
10-5
100
2
3
4
5
6
7
8
9
101
2
3
1
Incident Energy (MeV)
51-Sb-113

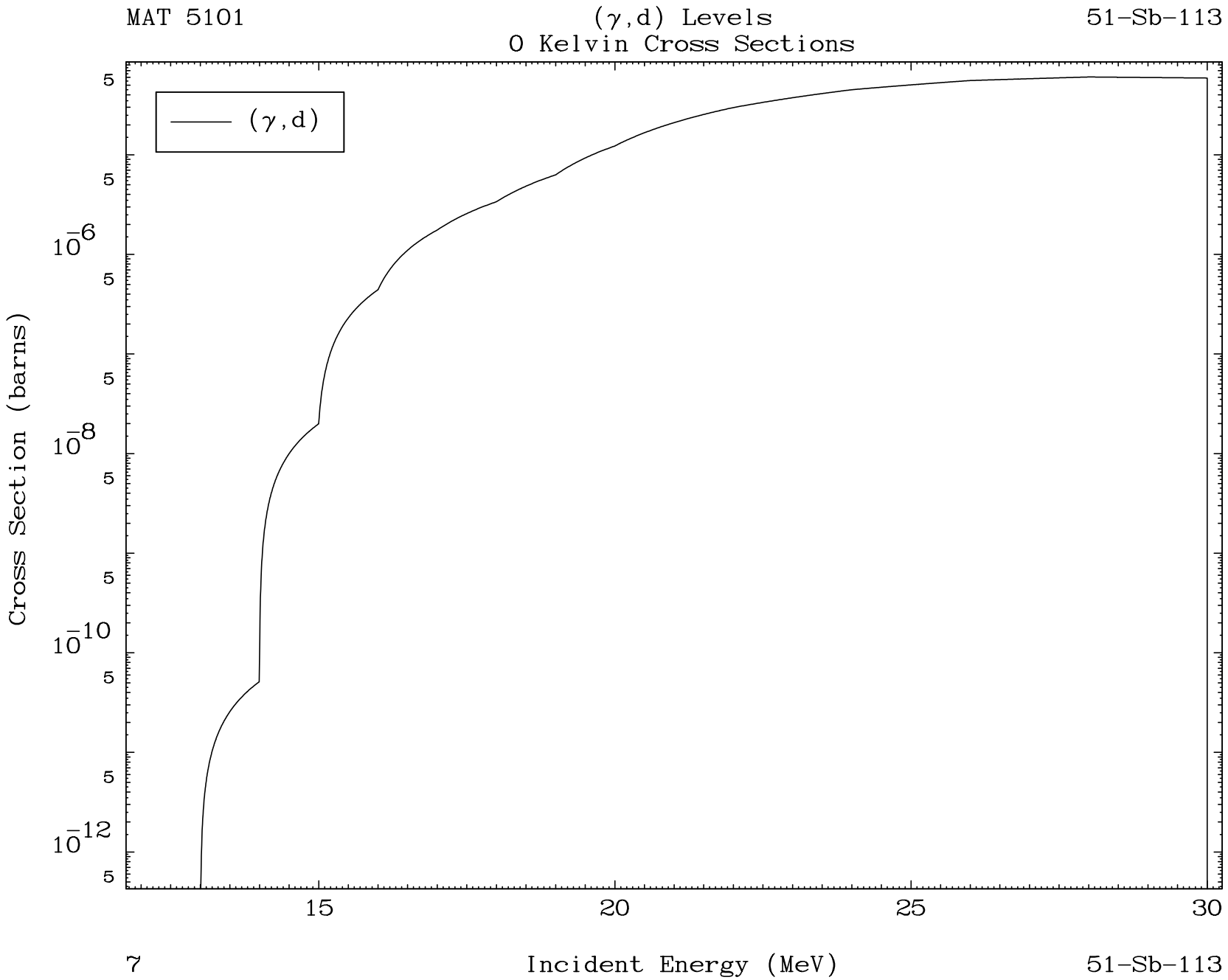

MAT 5101
Photon Neutron Production
0 Kelvin Cross Sections
51-Sb-113
(γ,2n)
(γ,n') α
(γ,2n) α
(γ,n') p
(γ,n') d
(γ,n') t
(γ,2n) p
Cross Section (barns)
10^2
10^0
10^-2
10^-4
10^-6
10^-8
15
20
25
30
2
Incident Energy (MeV)
51-Sb-113

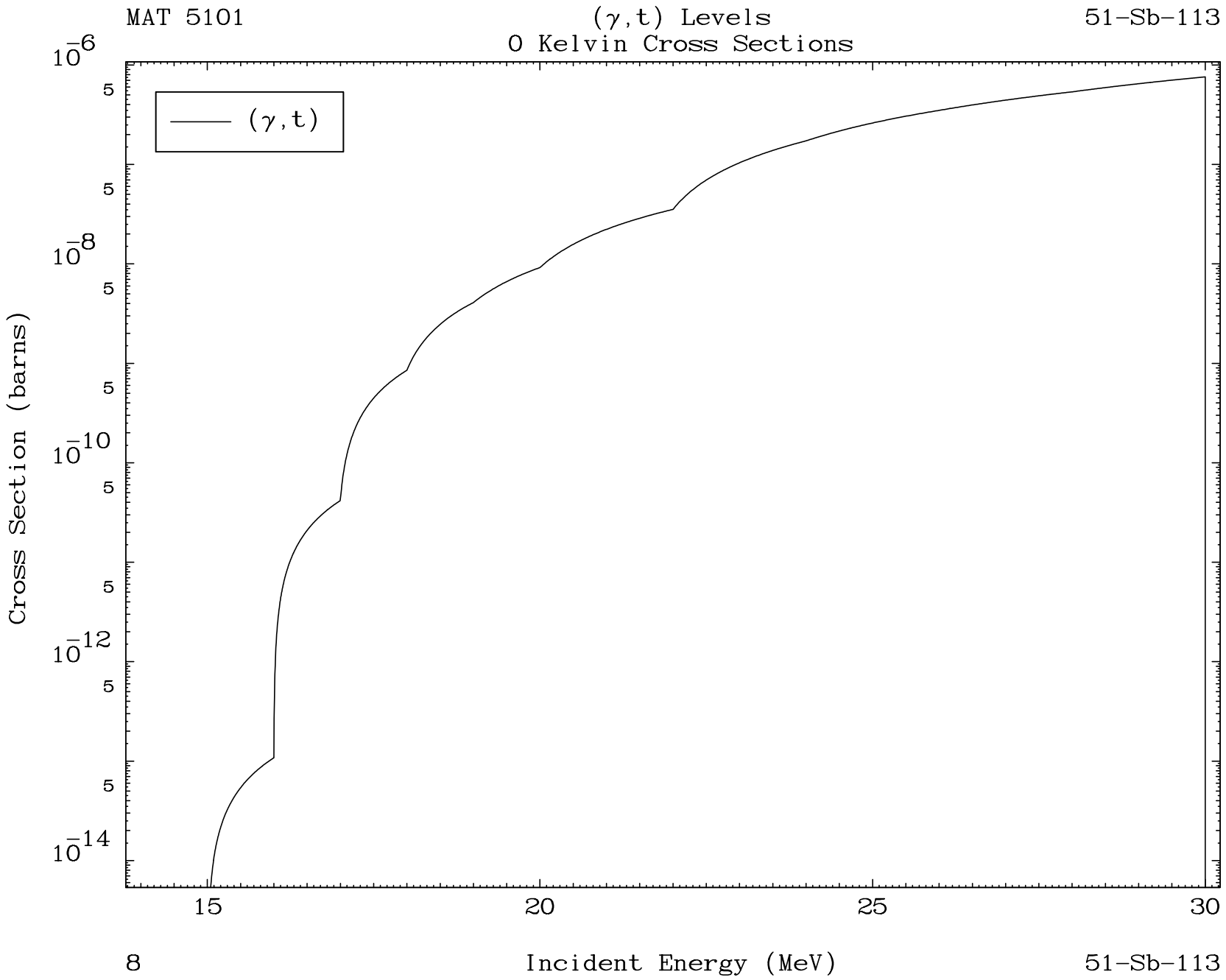

MAT 5101
Photon Charged Particle
0 Kelvin Cross Sections
51-Sb-113
(γ,n') α
(γ,2n) α
(γ,n') p
(γ,n') d
(γ,n') t
(γ,2n) p
(γ,p)
(γ,d)
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
10^-8
4
5
6
7
8
9
10^1
2
3
3
Incident Energy (MeV)
51-Sb-113

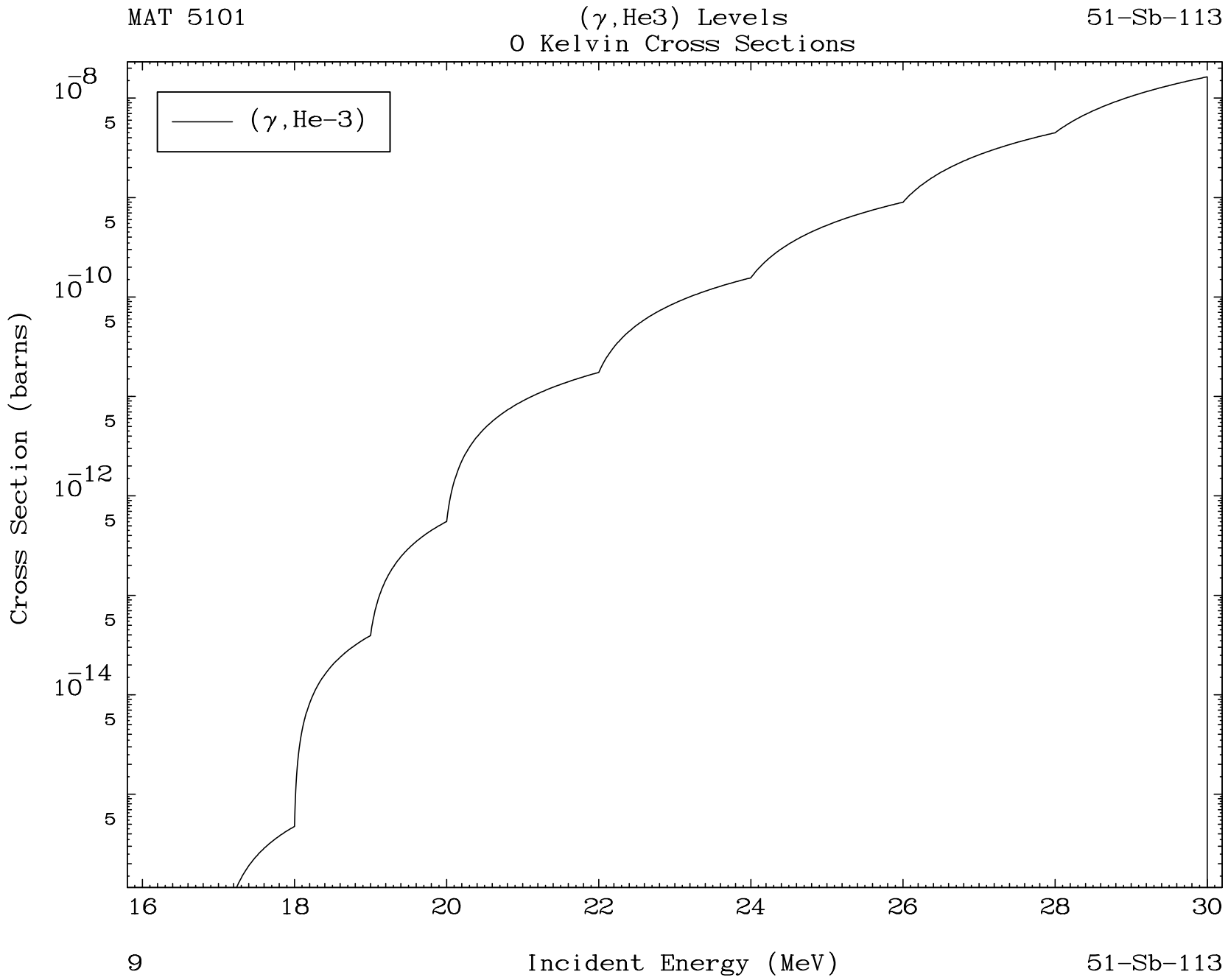

MAT 5101
Photon Charged Particle
0 Kelvin Cross Sections
51-Sb-113
(γ,t)
(γ,He-3)
(γ,α)
(γ,2α)
(γ,2p)
(γ,p) α
(γ,p) d
(γ,p) t
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
3
4
5
6
7
8
9
10^1
2
3
4
Incident Energy (MeV)
51-Sb-113

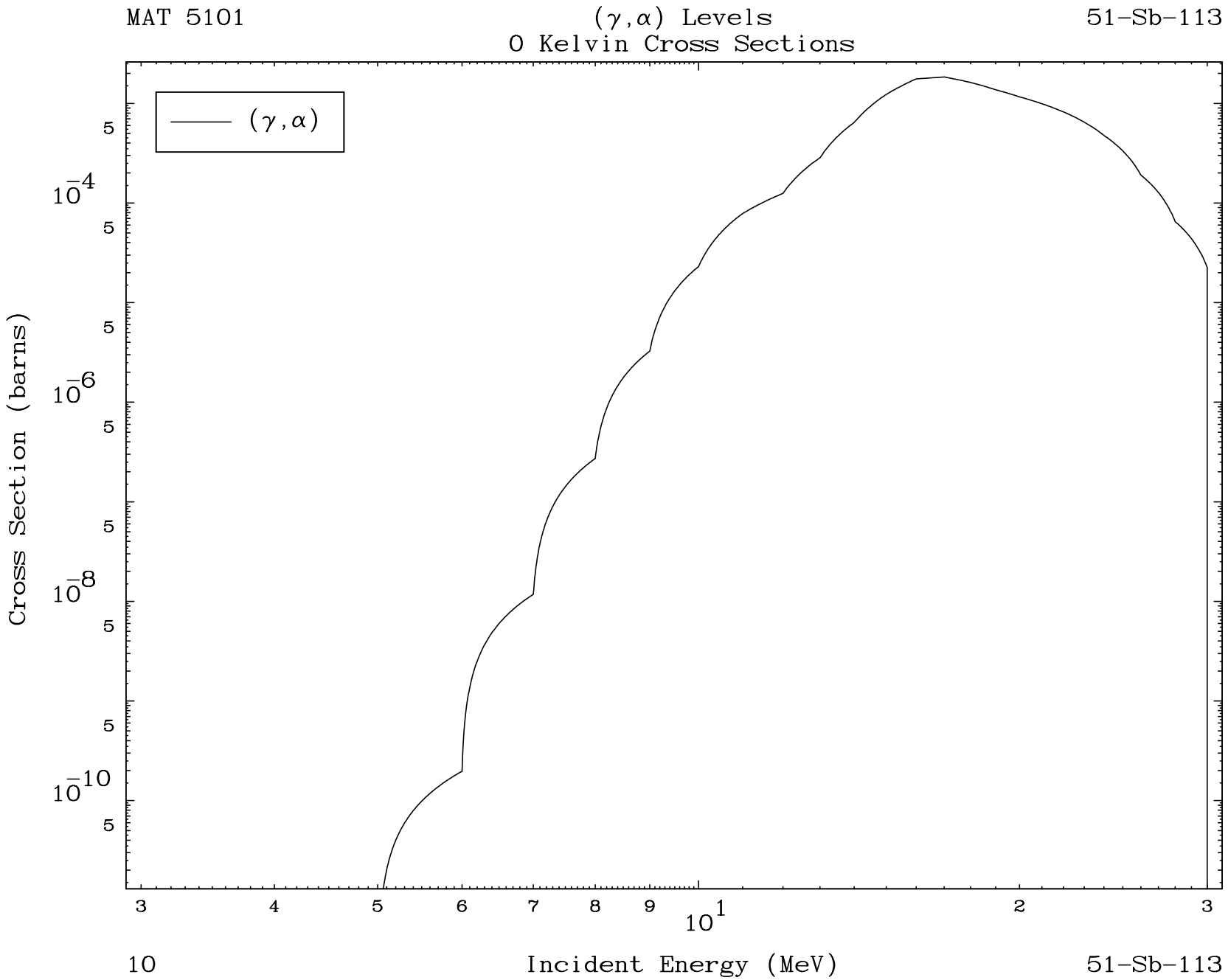

MAT 5101
(γ,n') Level
51-Sb-113
0 Kelvin Cross Sections
Cross Section (barns)
10-2
10-4
10-6
10-8
5
15
20
25
30
Incident Energy (MeV)
51-Sb-113
Photon Inelastic
(γ,n') Ground
MT= 51 (γ,n') Level
(γ,n') Continuum

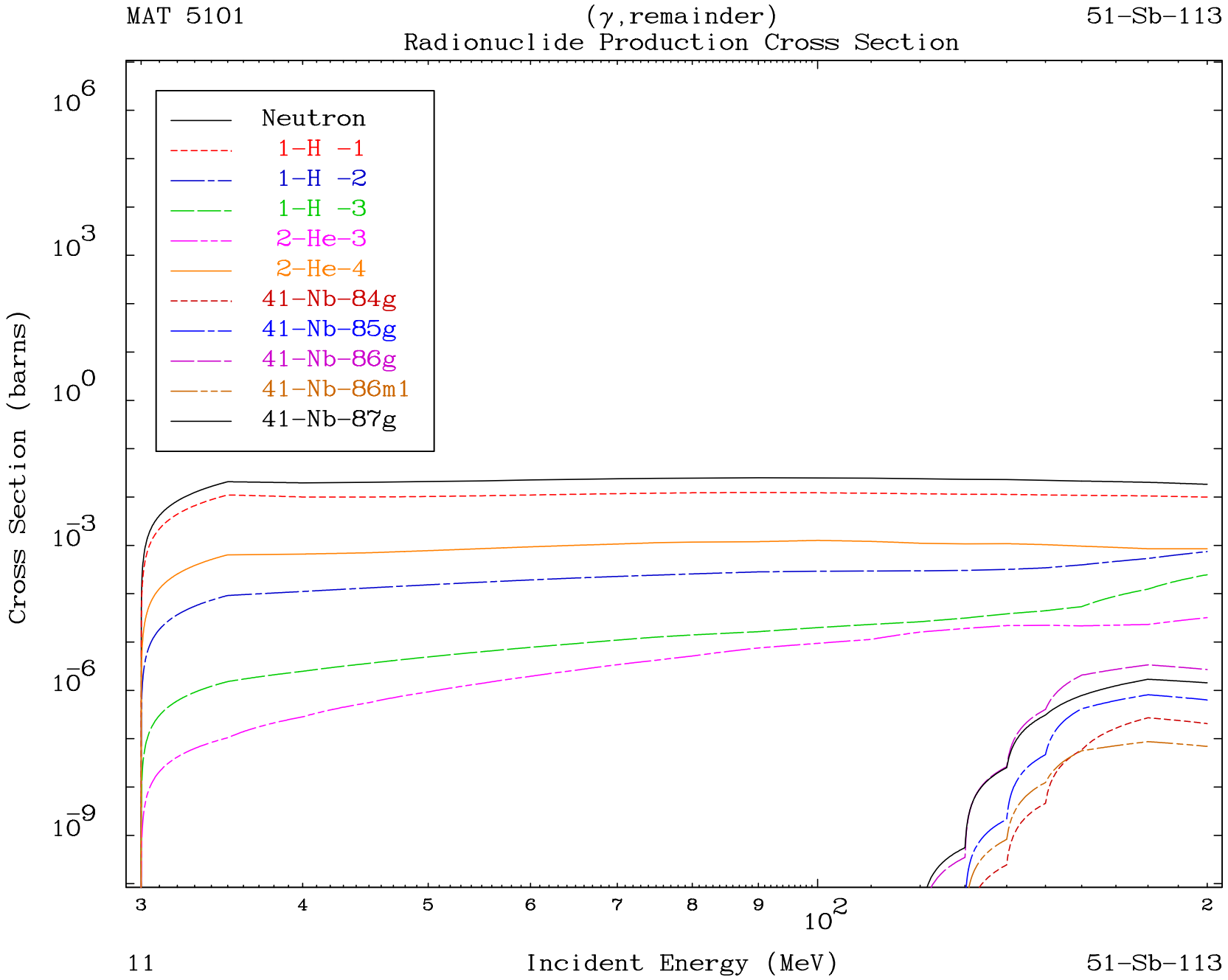

MAT 5101
(γ,p) Levels
51-Sb-113
0 Kelvin Cross Sections
(γ,p)
Cross Section (barns)
10-1
10-2
10-3
10-4
10-5
10-6
4
5
6
7
8
9
10 1
2
3
Incident Energy (MeV)
6
51-Sb-113

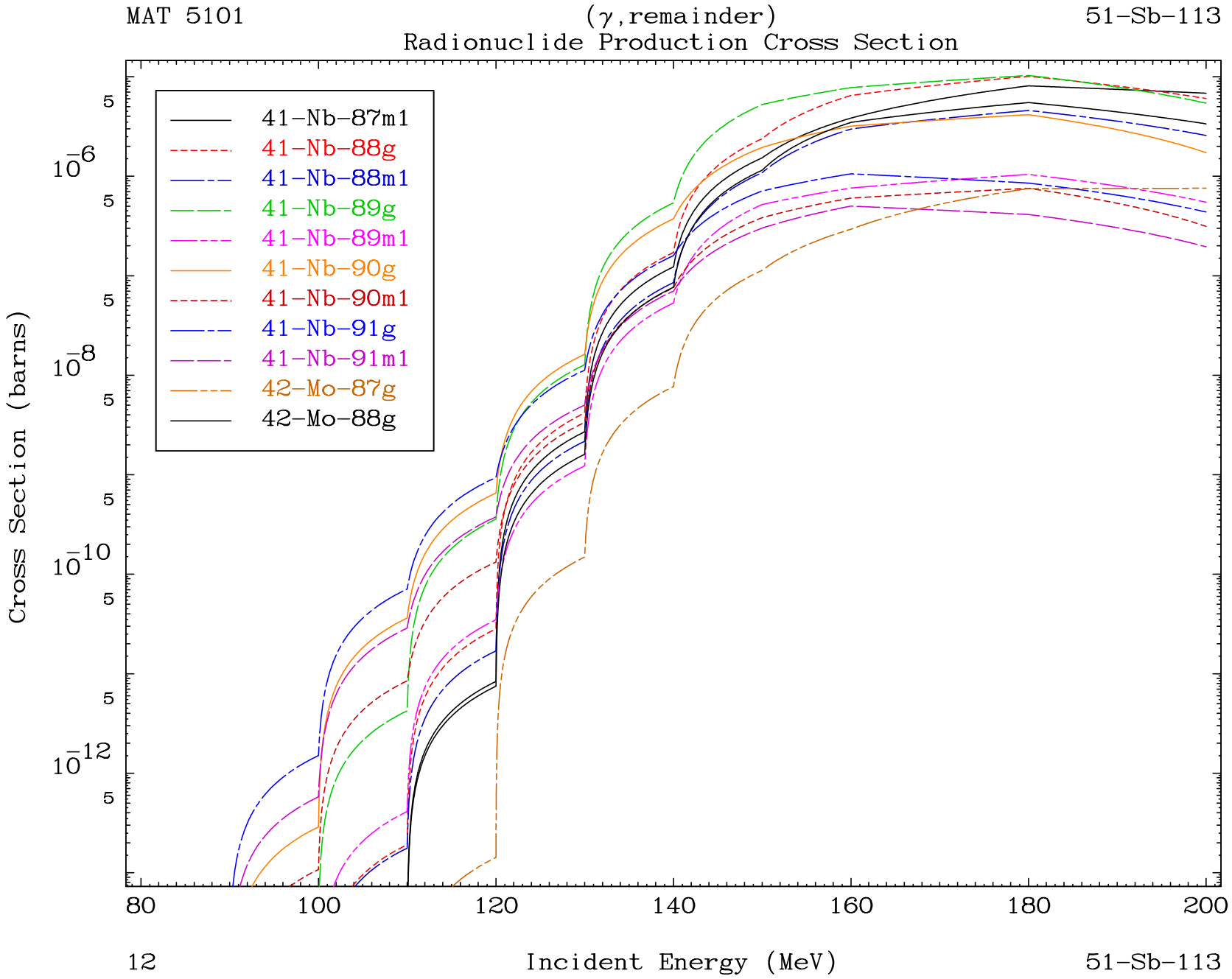

MAT 5101
(γ,d) Levels
51-Sb-113
0 Kelvin Cross Sections
(γ,d)
Cross Section (barns)
10⁻6
10⁻8
10⁻10
10⁻12
5
15
20
25
30
7
Incident Energy (MeV)
51-Sb-113

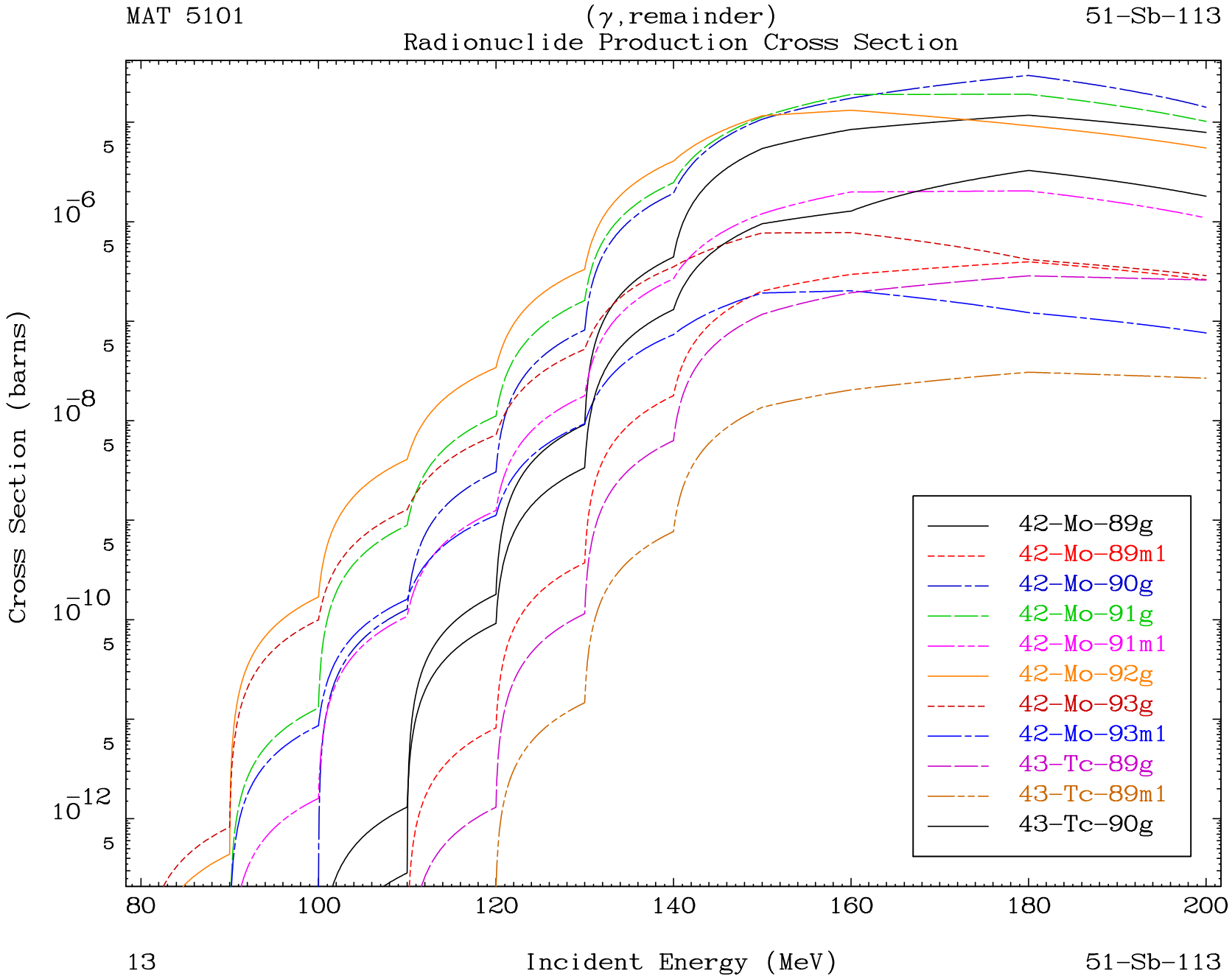

MAT 5101
(γ,t) Levels
51-Sb-113
0 Kelvin Cross Sections
(γ,t)
Cross Section (barns)
10-6
5
10-8
5
10-10
5
10-12
5
10-14
15
20
25
30
Incident Energy (MeV)
8
51-Sb-113

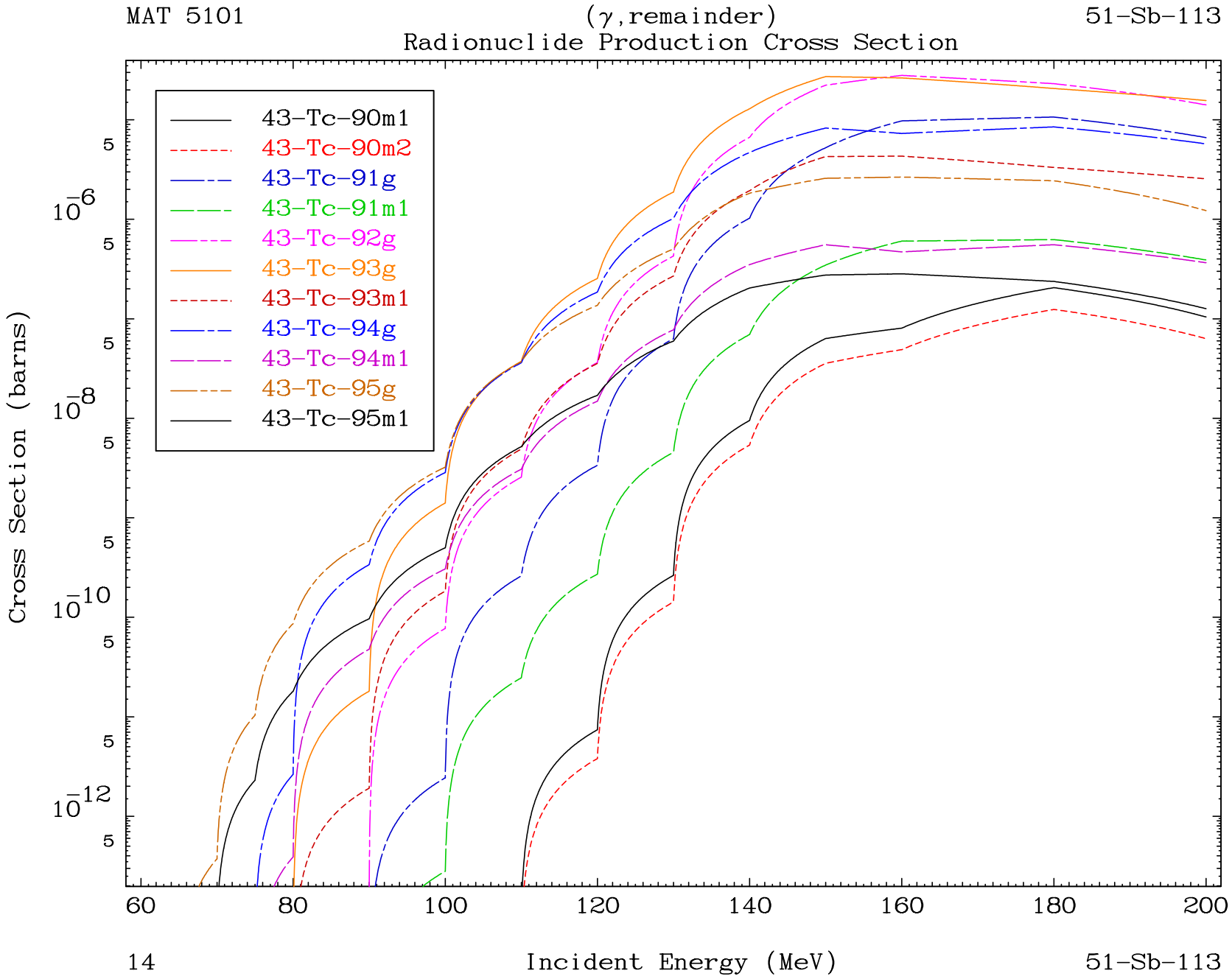

MAT 5101
(γ,He3) Levels
51-Sb-113
0 Kelvin Cross Sections
(γ,He-3)
Cross Section (barns)
10-8
10-10
10-12
10-14
5
16
18
20
22
24
26
28
30
9
Incident Energy (MeV)
51-Sb-113

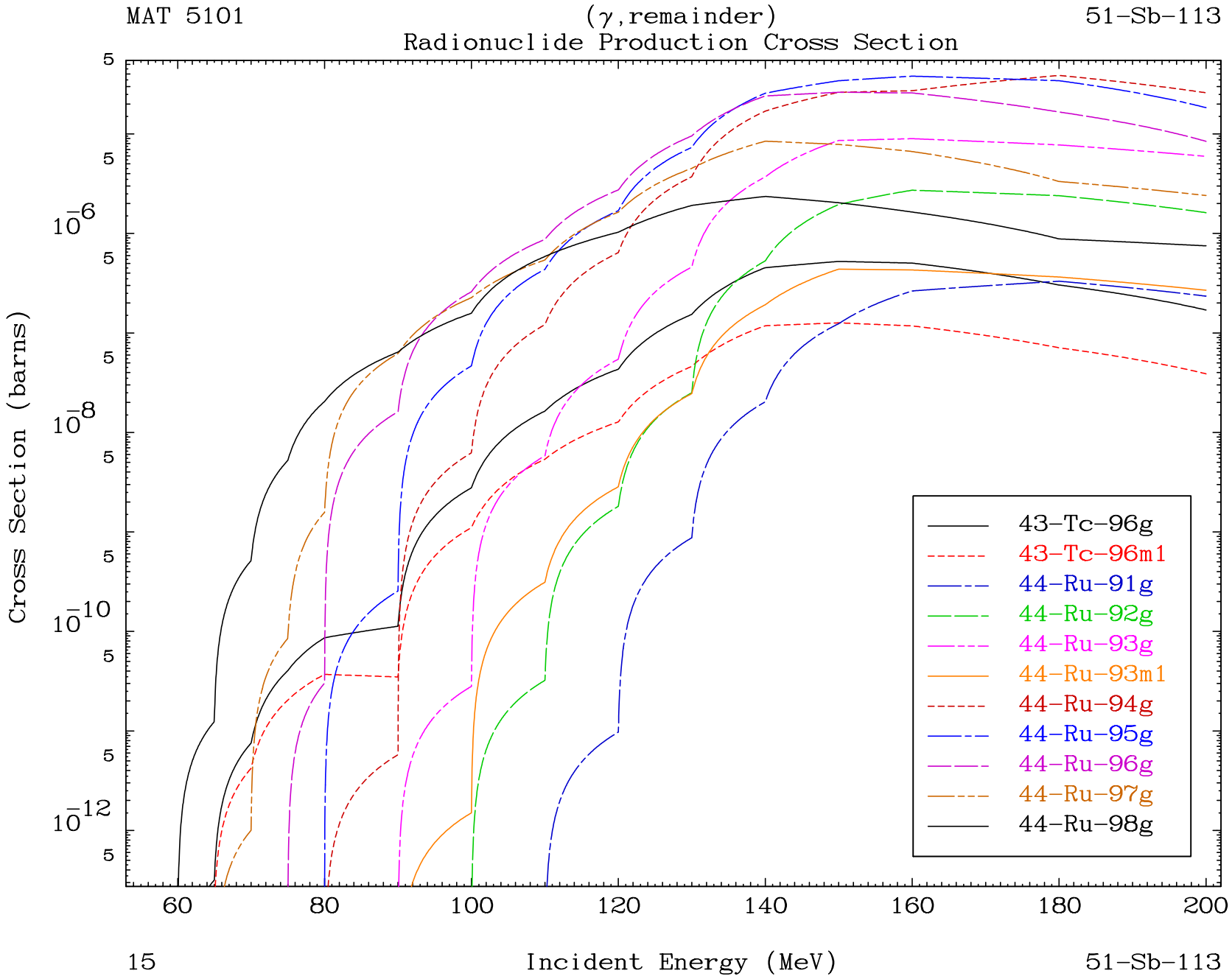

MAT 5101
(γ,α) Levels
51-Sb-113
0 Kelvin Cross Sections
(γ,α)
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
5
3
4
5
6
7
8
9
10^1
2
3
10
Incident Energy (MeV)
51-Sb-113

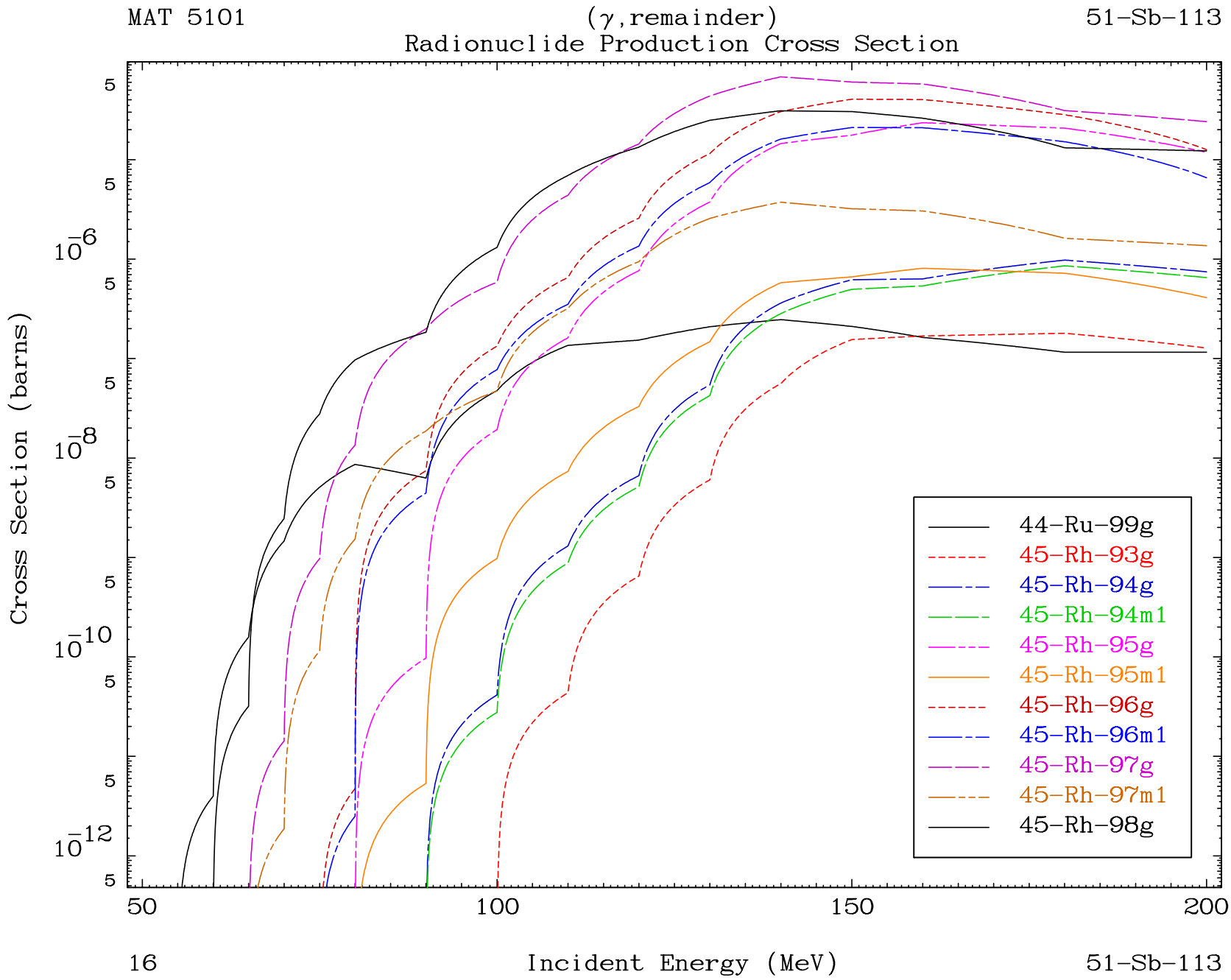

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Neutron
1-H -1
1-H -2
1-H -3
2-He-3
2-He-4
41-Nb-84g
41-Nb-85g
41-Nb-86g
41-Nb-86m1
41-Nb-87g
Cross Section (barns)
10^6
10^3
10^0
10^-3
10^-6
10^-9
3
4
5
6
7
8
9
10^2
2
11
Incident Energy (MeV)
51-Sb-113

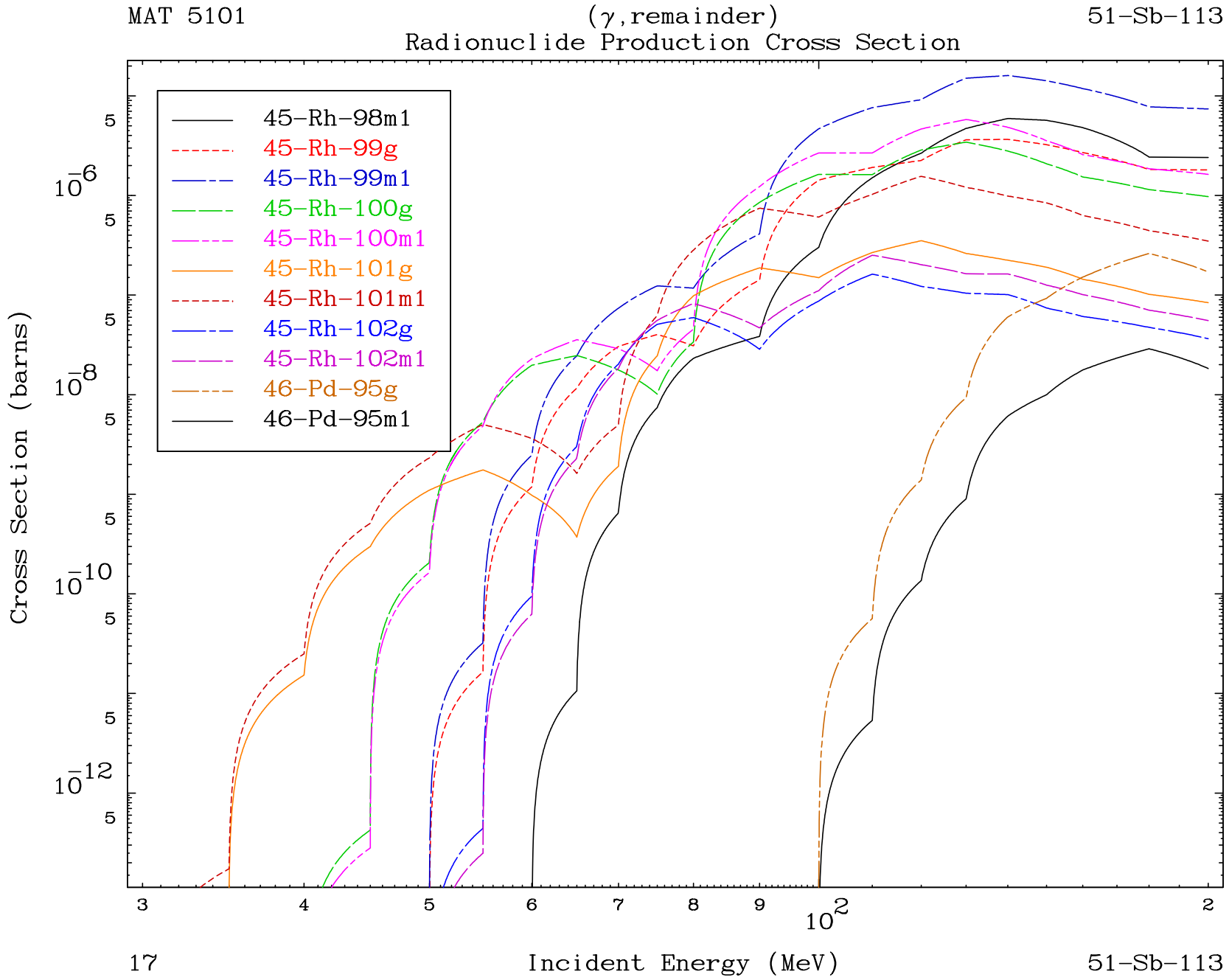

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
41-Nb-87m1
41-Nb-88g
41-Nb-88m1
41-Nb-89g
41-Nb-89m1
41-Nb-90g
41-Nb-90m1
41-Nb-91g
41-Nb-91m1
42-Mo-87g
42-Mo-88g
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
80
100
120
140
160
180
200
12
Incident Energy (MeV)
51-Sb-113

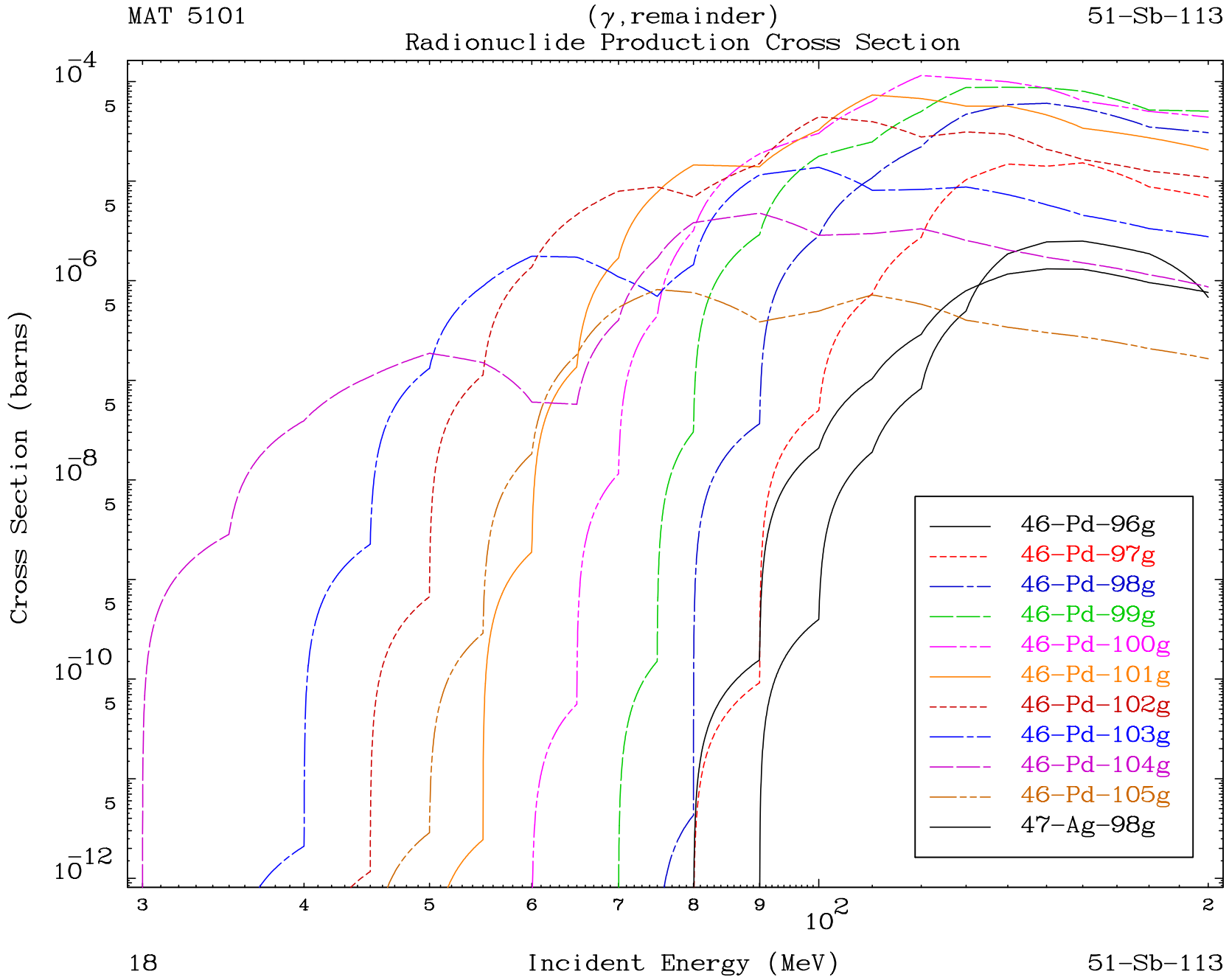

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10-6
10-8
10-10
10-12
80
100
120
140
160
180
200
Incident Energy (MeV)
42-Mo-89g
42-Mo-89m1
42-Mo-90g
42-Mo-91g
42-Mo-91m1
42-Mo-92g
42-Mo-93g
42-Mo-93m1
43-Tc-89g
43-Tc-89m1
43-Tc-90g

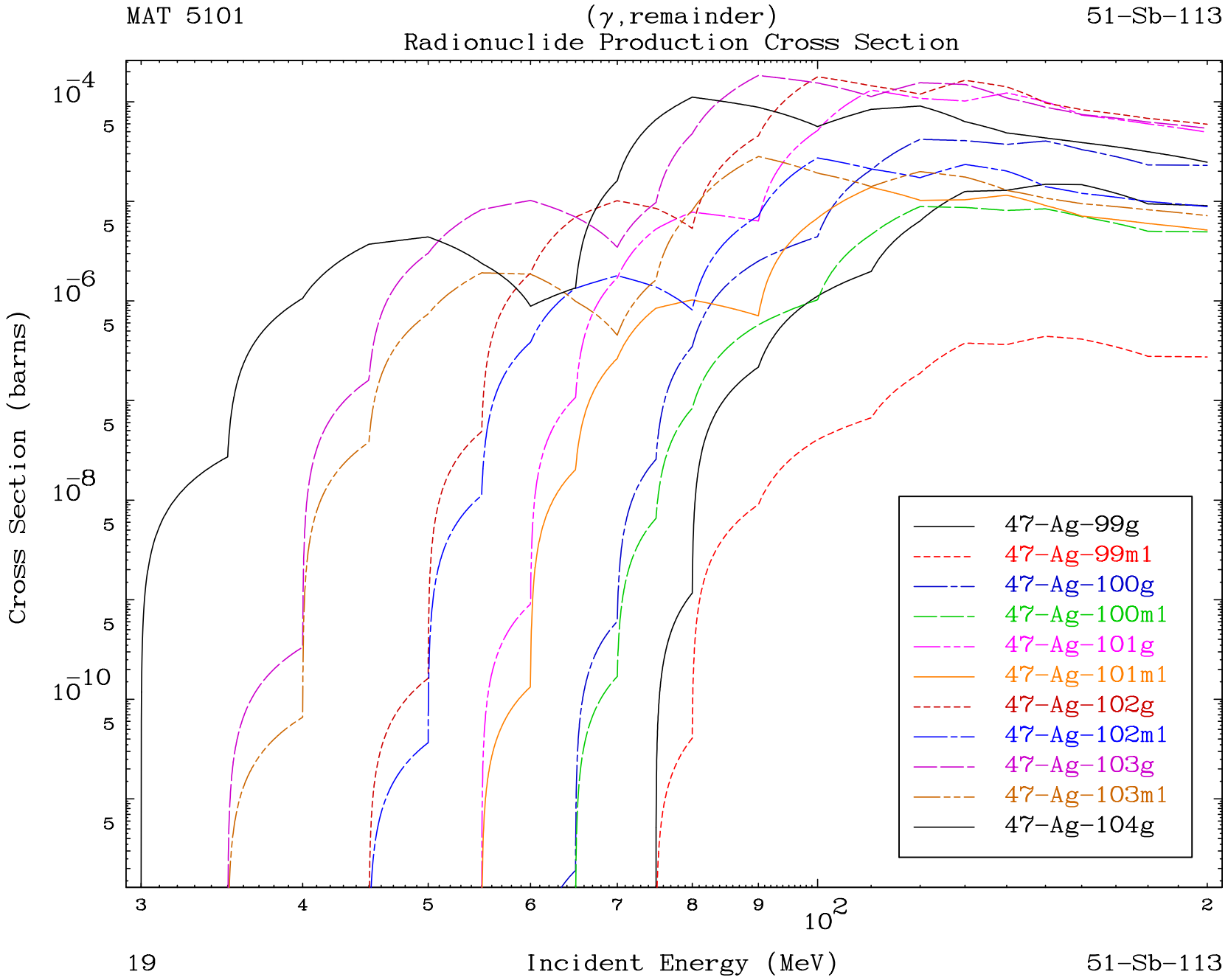

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
43-Tc-90m1
43-Tc-90m2
43-Tc-91g
43-Tc-91m1
43-Tc-92g
43-Tc-93g
43-Tc-93m1
43-Tc-94g
43-Tc-94m1
43-Tc-95g
43-Tc-95m1
Cross Section (barns)
10-6
10-8
10-10
10-12
5
60
80
100
120
140
160
180
200
14
Incident Energy (MeV)
51-Sb-113

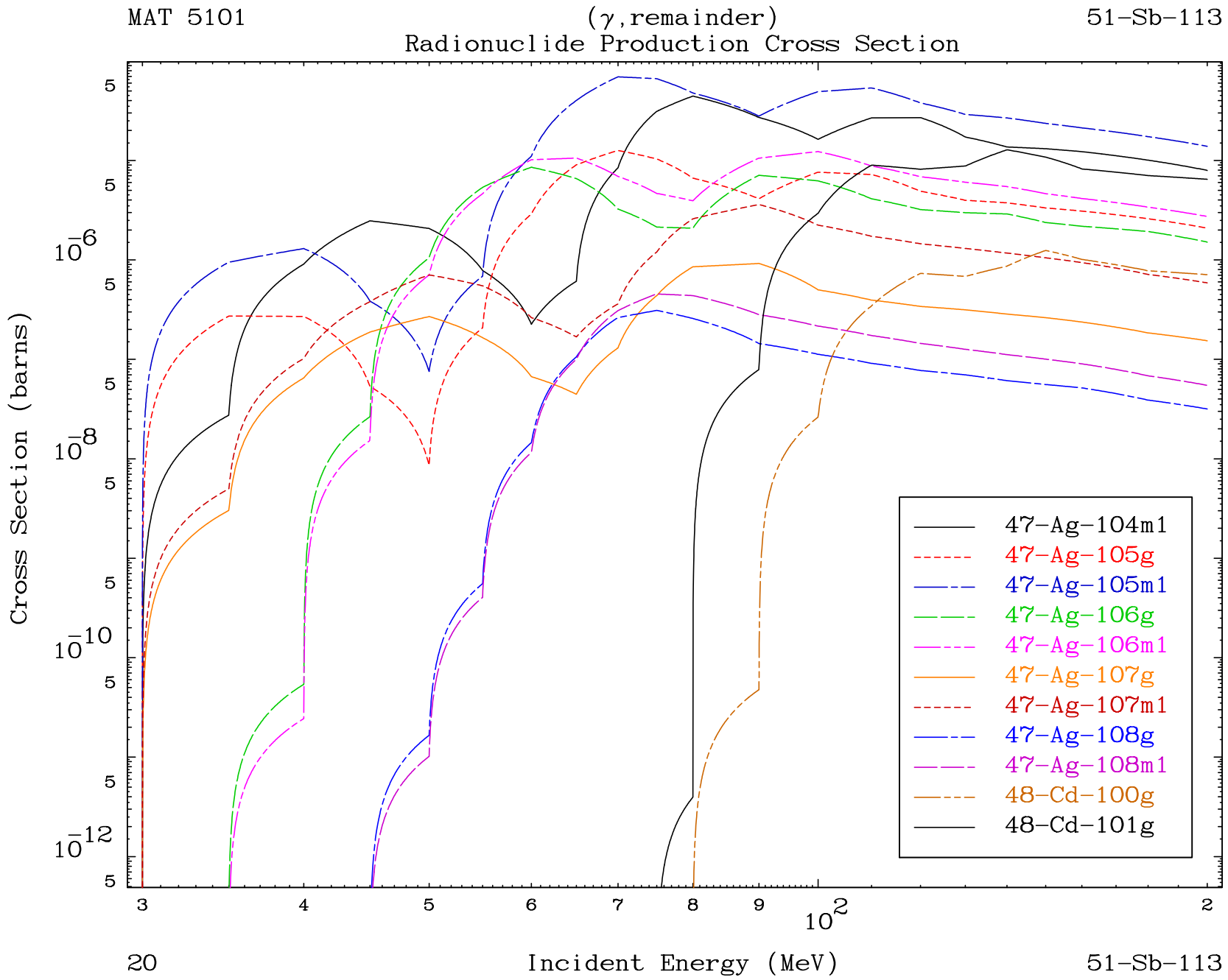

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10-6
10-8
10-10
10-12
60
80
100
120
140
160
180
200
Incident Energy (MeV)
15
51-Sb-113
43-Tc-96g
43-Tc-96m1
44-Ru-91g
44-Ru-92g
44-Ru-93g
44-Ru-93m1
44-Ru-94g
44-Ru-95g
44-Ru-96g
44-Ru-97g
44-Ru-98g

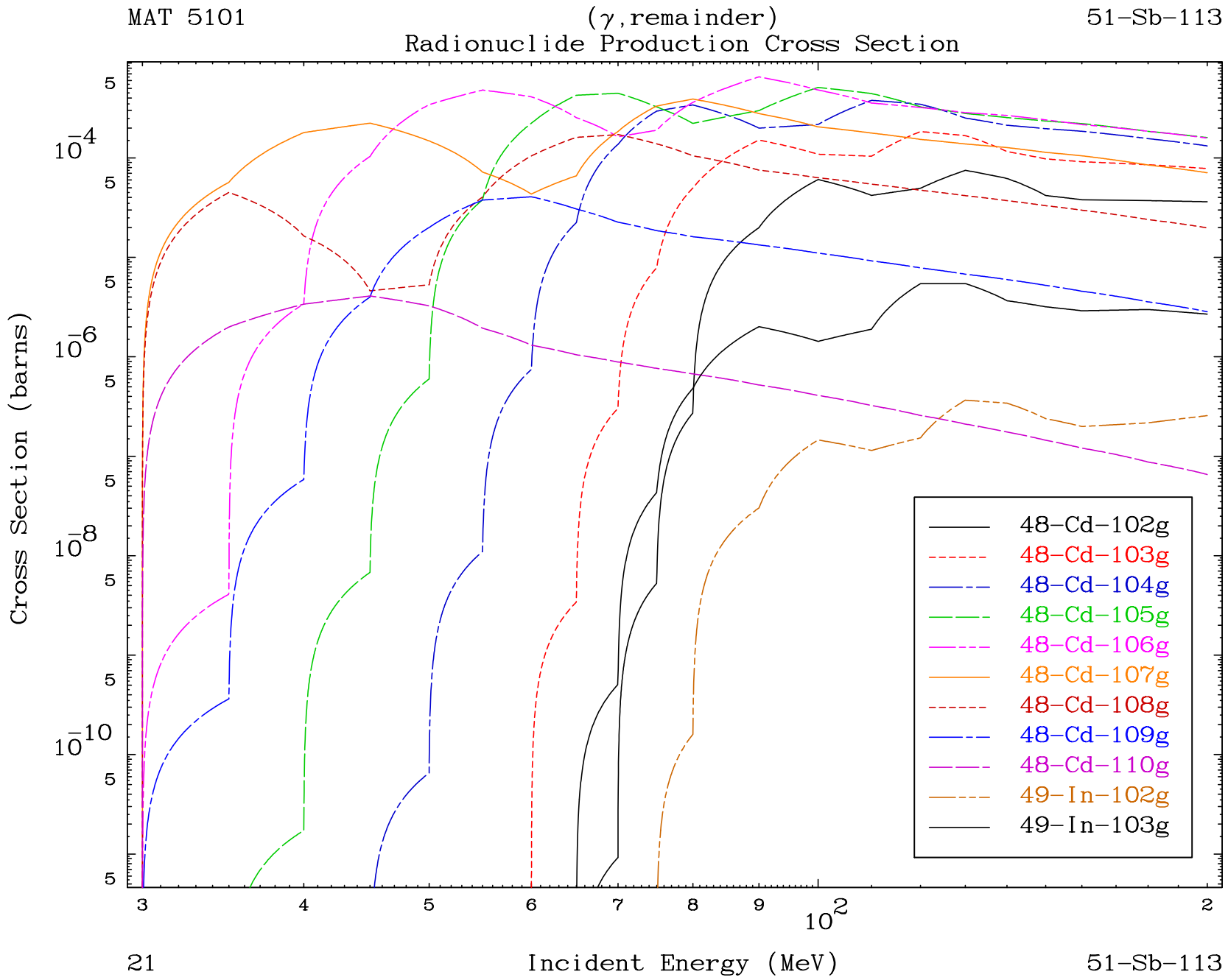

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10-6
10-8
10-10
10-12
50
100
150
200
16
Incident Energy (MeV)
51-Sb-113
44-Ru-99g
45-Rh-93g
45-Rh-94g
45-Rh-94m1
45-Rh-95g
45-Rh-95m1
45-Rh-96g
45-Rh-96m1
45-Rh-97g
45-Rh-97m1
45-Rh-98g

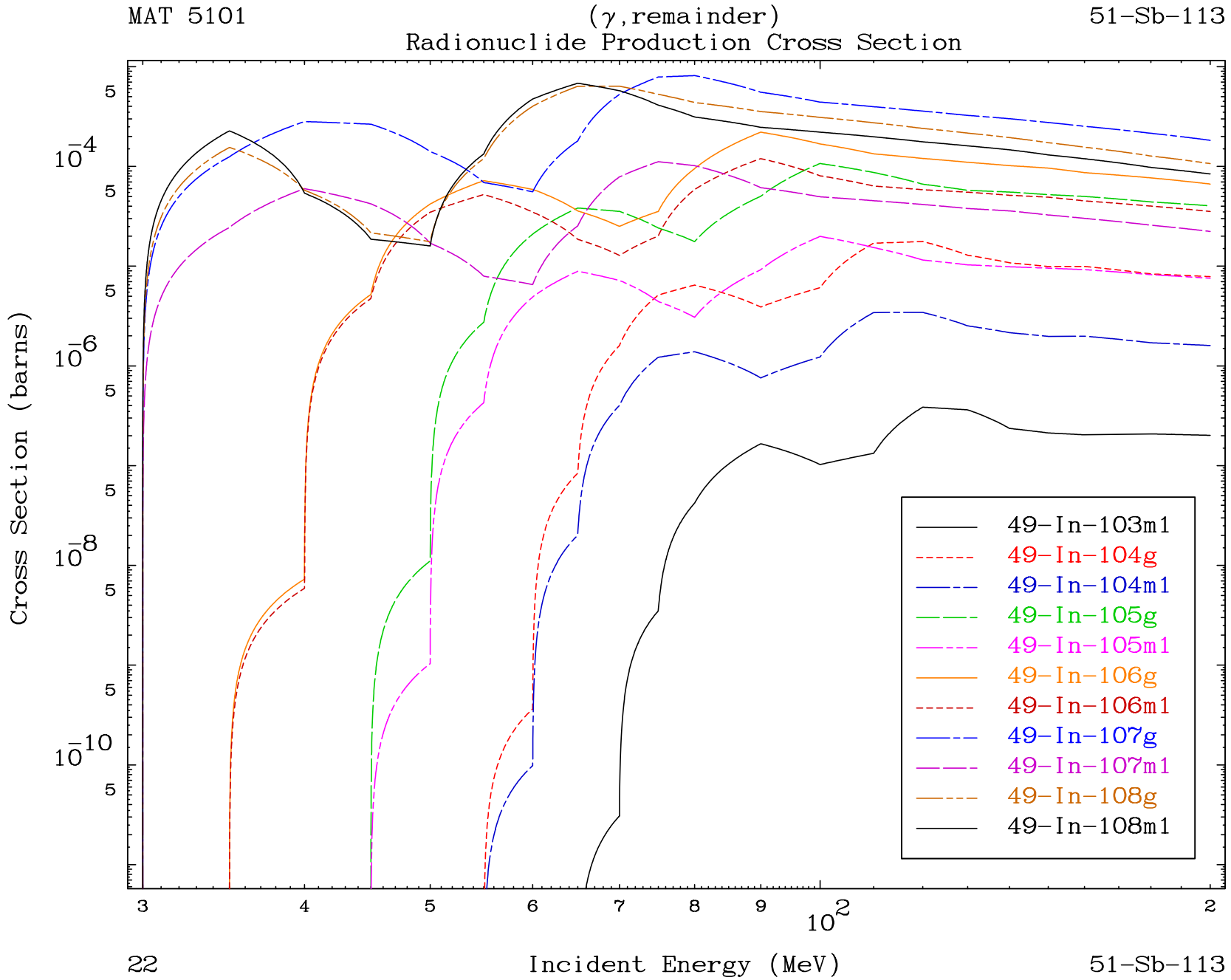

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
45-Rh-98m1
45-Rh-99g
45-Rh-99m1
45-Rh-100g
45-Rh-100m1
45-Rh-101g
45-Rh-101m1
45-Rh-102g
45-Rh-102m1
46-Pd-95g
46-Pd-95m1
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
3
4
5
6
7
8
9
10^2
2
17
Incident Energy (MeV)
51-Sb-113

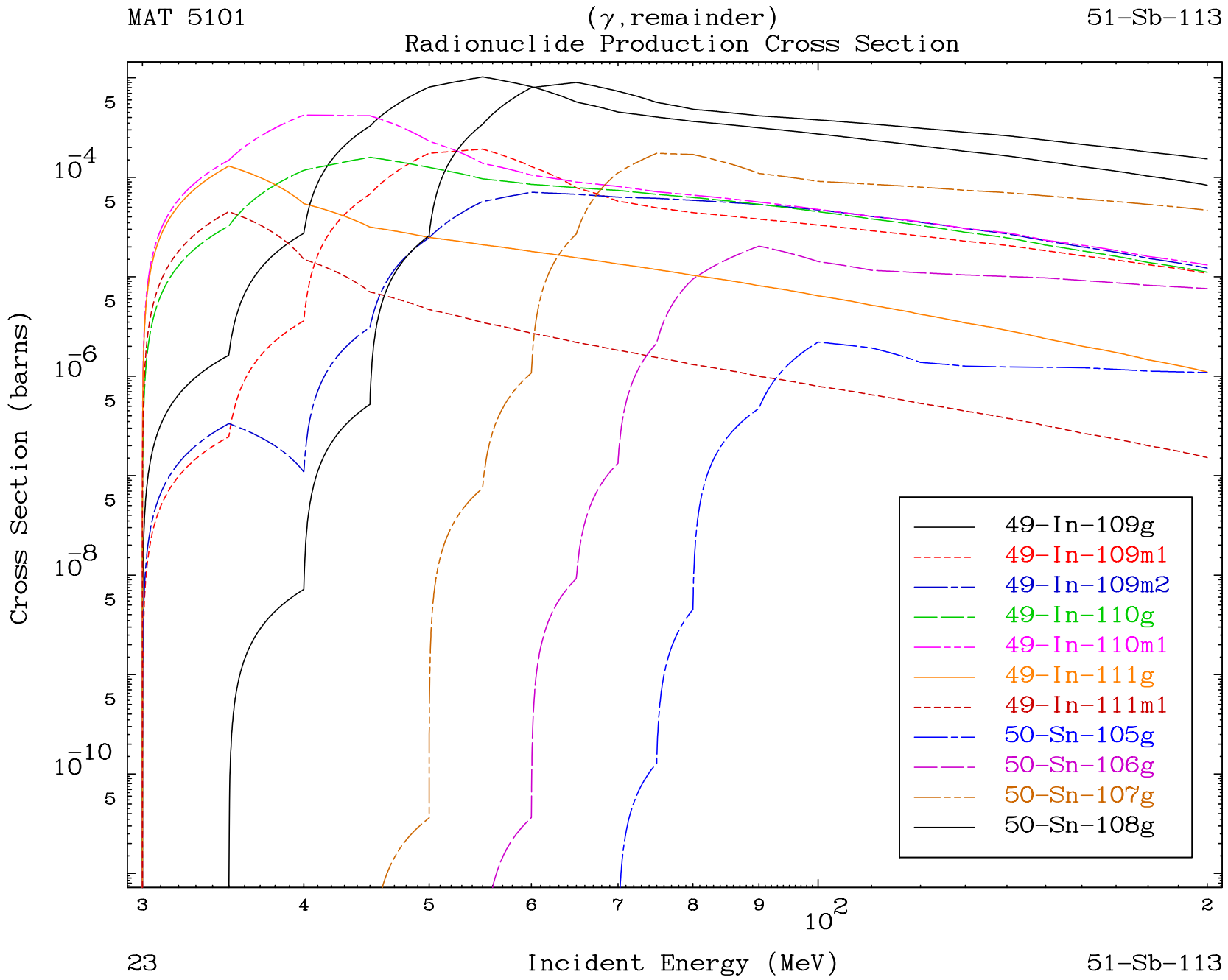

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10^-12
5
3
4
6
7
8
9
10^2
2
Incident Energy (MeV)
46-Pd-96g
46-Pd-97g
46-Pd-98g
46-Pd-99g
46-Pd-100g
46-Pd-101g
46-Pd-102g
46-Pd-103g
46-Pd-104g
46-Pd-105g
47-Ag-98g


MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10-4
10-6
10-8
10-10
5
3
4
5
6
7
8
9
10 2
2
47-Ag-99g
47-Ag-99m1
47-Ag-100g
47-Ag-100m1
47-Ag-101g
47-Ag-101m1
47-Ag-102g
47-Ag-102m1
47-Ag-103g
47-Ag-103m1
47-Ag-104g
19
Incident Energy (MeV)
51-Sb-113

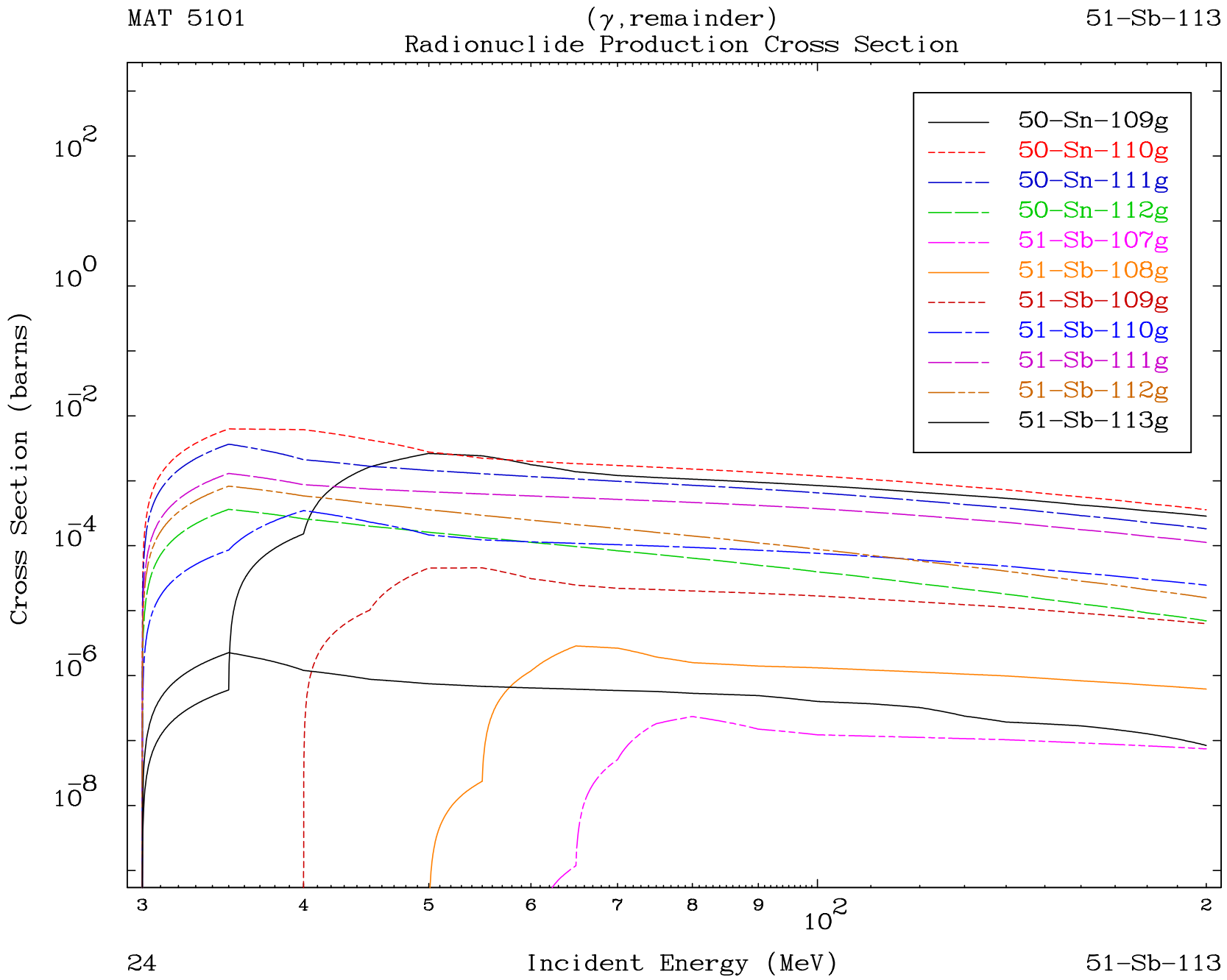

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
3
4
5
6
7
8
9
10^2
2
47-Ag-104m1
47-Ag-105g
47-Ag-105m1
47-Ag-106g
47-Ag-106m1
47-Ag-107g
47-Ag-107m1
47-Ag-108g
47-Ag-108m1
48-Cd-100g
48-Cd-101g
20
Incident Energy (MeV)
51-Sb-113

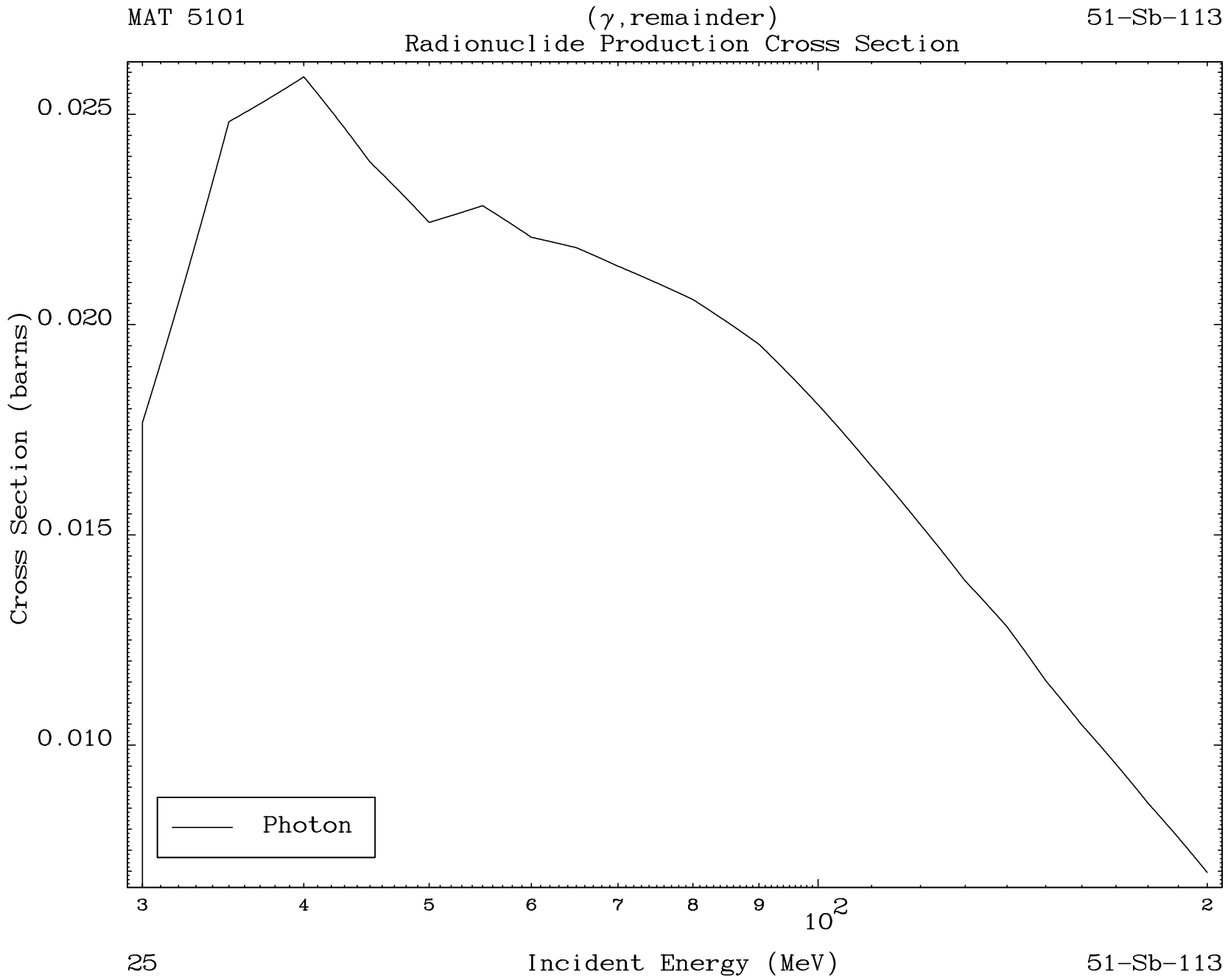

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10-4
10-6
10-8
10-10
5
3
4
5
6
7
8
9
10 2
2
Incident Energy (MeV)
48-Cd-102g
48-Cd-103g
48-Cd-104g
48-Cd-105g
48-Cd-106g
48-Cd-107g
48-Cd-108g
48-Cd-109g
48-Cd-110g
49-In-102g
49-In-103g
21
51-Sb-113

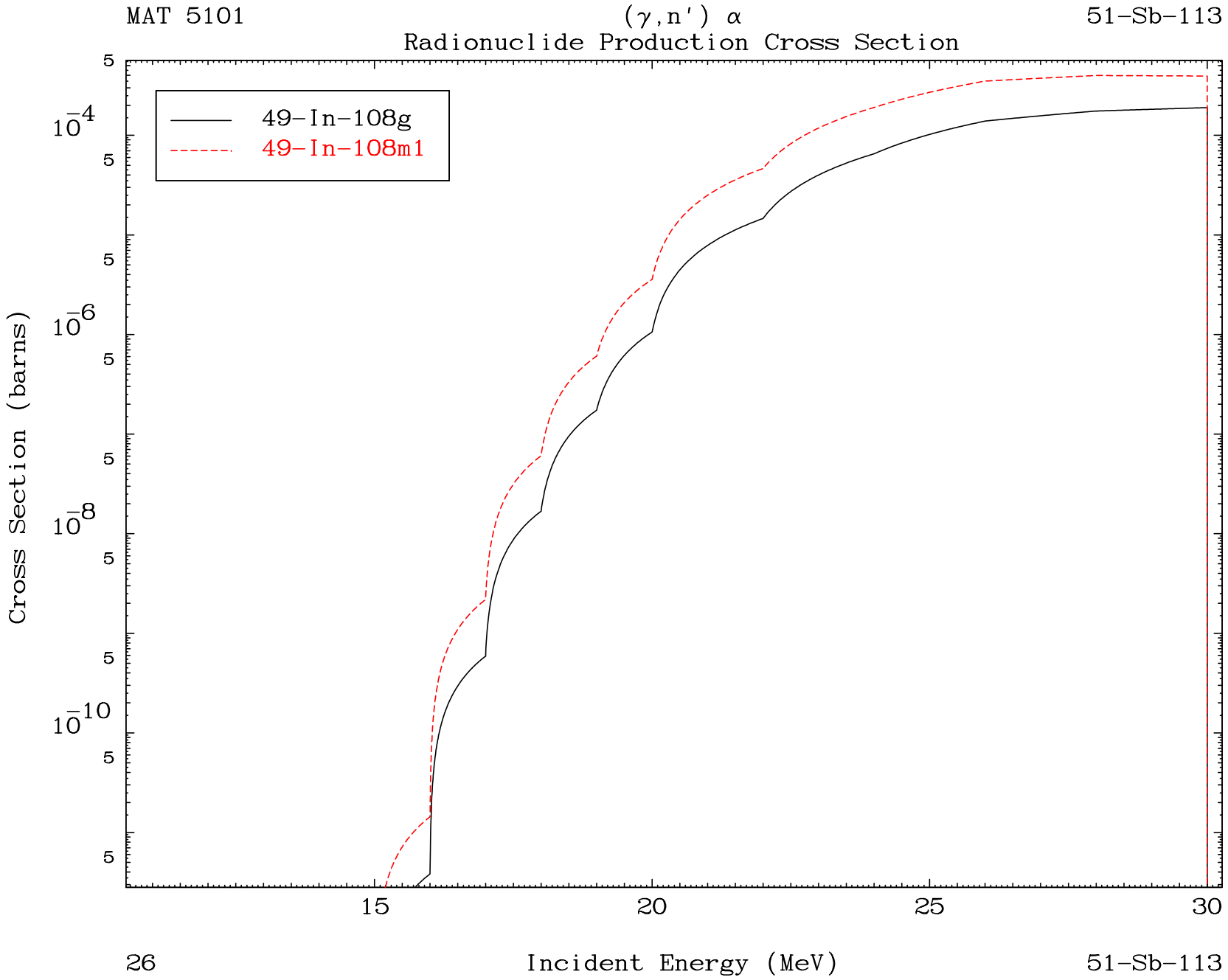

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10-4
10-6
10-8
10-10
3
4
5
6
7
8
9
10 2
2
Incident Energy (MeV)
22
51-Sb-113
49-In-103m1
49-In-104g
49-In-104m1
49-In-105g
49-In-105m1
49-In-106g
49-In-106m1
49-In-107g
49-In-107m1
49-In-108g
49-In-108m1

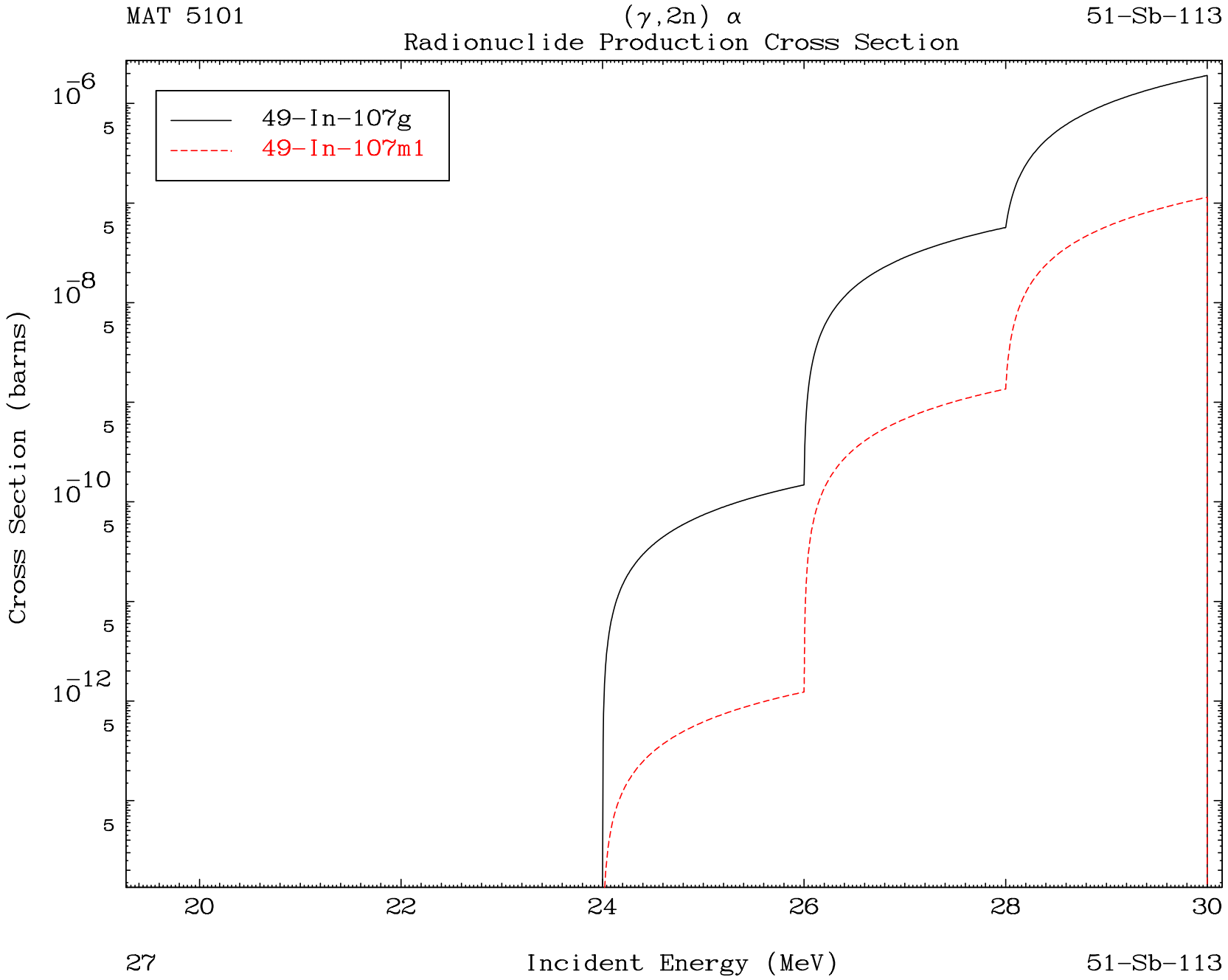

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
Cross Section (barns)
10-4
10-6
10-8
10-10
5
3
4
5
6
7
8
9
10 2
2
Incident Energy (MeV)
49-In-109g
49-In-109m1
49-In-109m2
49-In-110g
49-In-110m1
49-In-111g
49-In-111m1
50-Sn-105g
50-Sn-106g
50-Sn-107g
50-Sn-108g

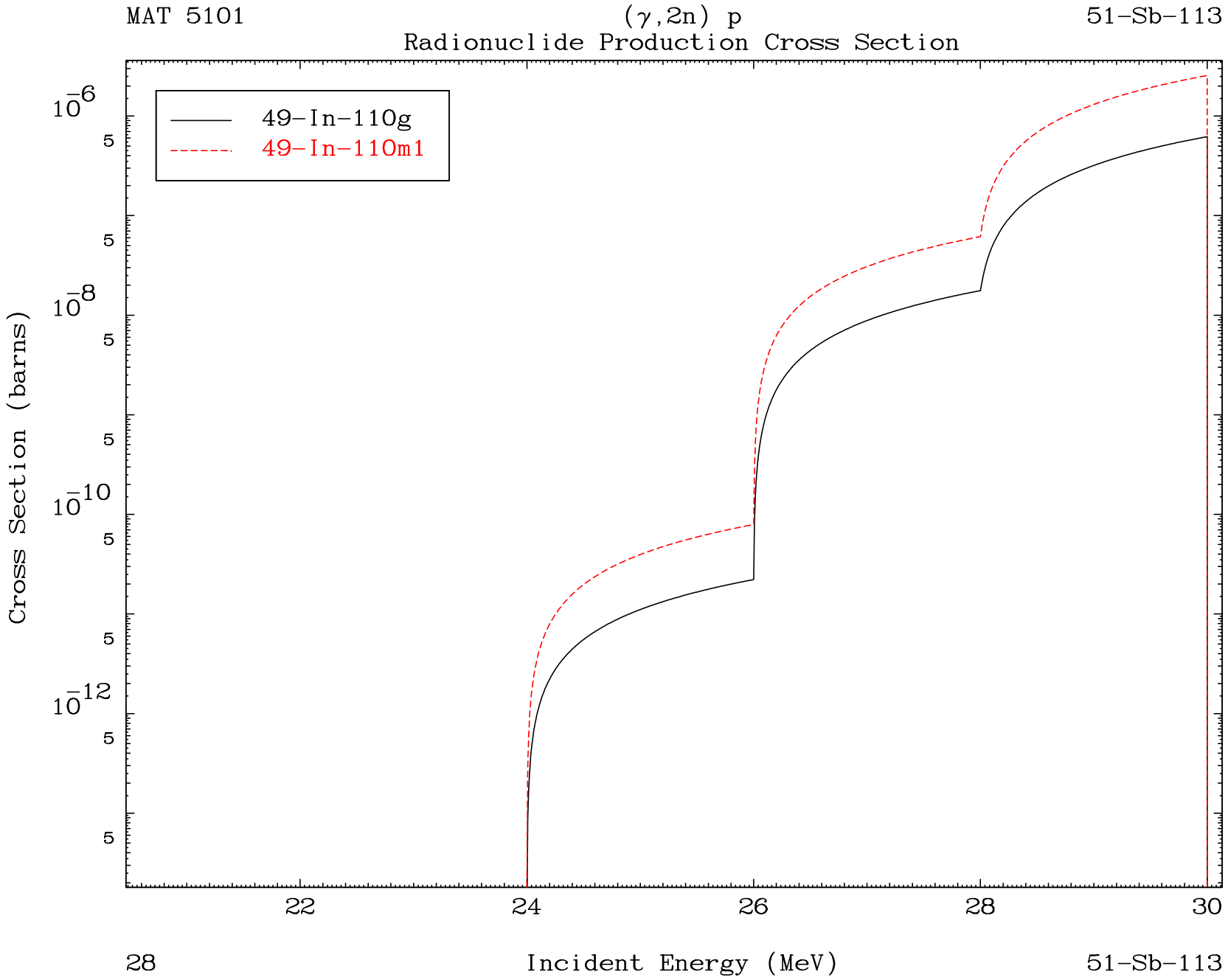
51-Sb-113

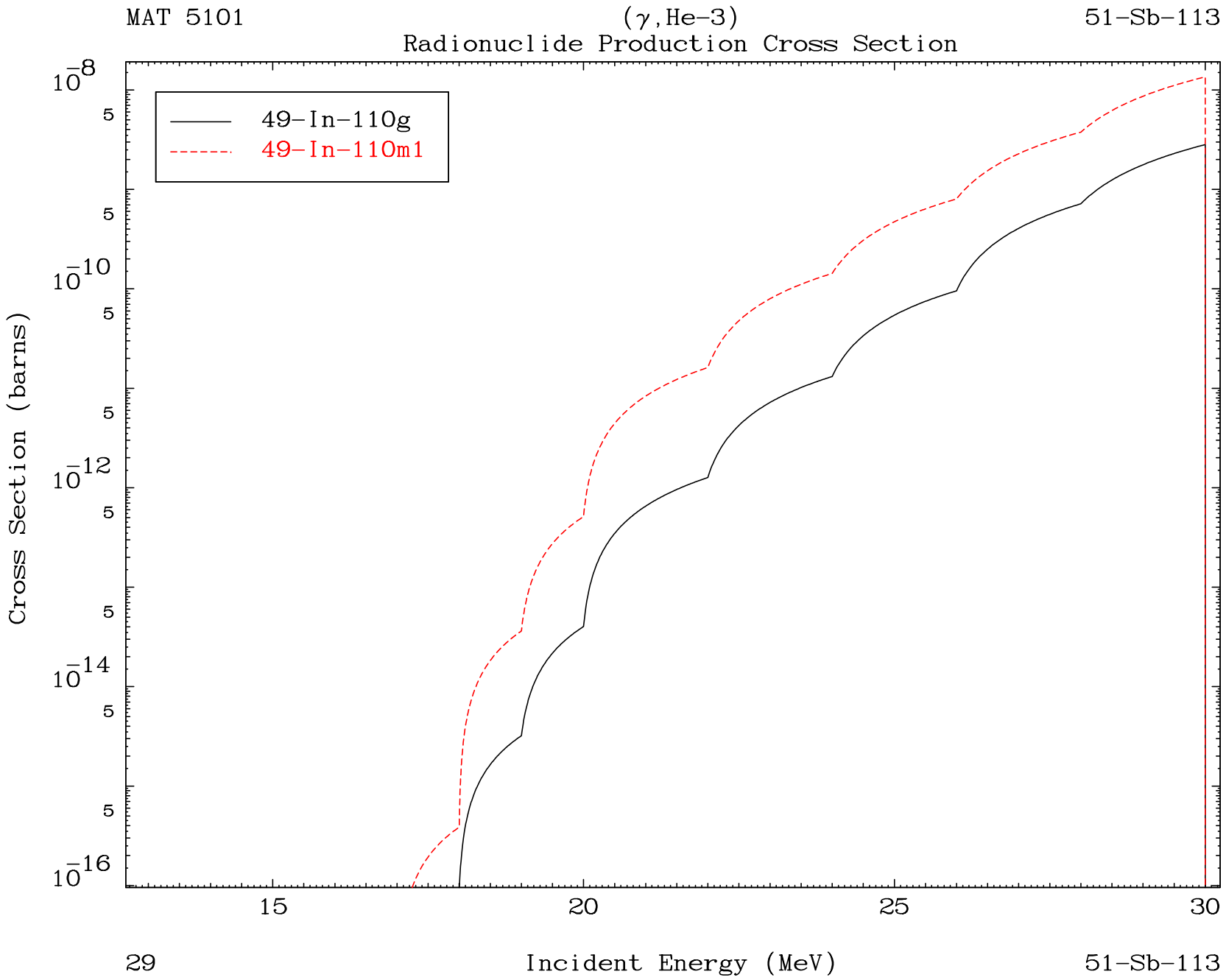

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
50-Sn-109g
50-Sn-110g
50-Sn-111g
50-Sn-112g
51-Sb-107g
51-Sb-108g
51-Sb-109g
51-Sb-110g
51-Sb-111g
51-Sb-112g
51-Sb-113g
Cross Section (barns)
10^2
10^0
10^-2
10^-4
10^-6
10^-8
3
4
5
6
7
8
9
10^2
2
24
Incident Energy (MeV)
51-Sb-113

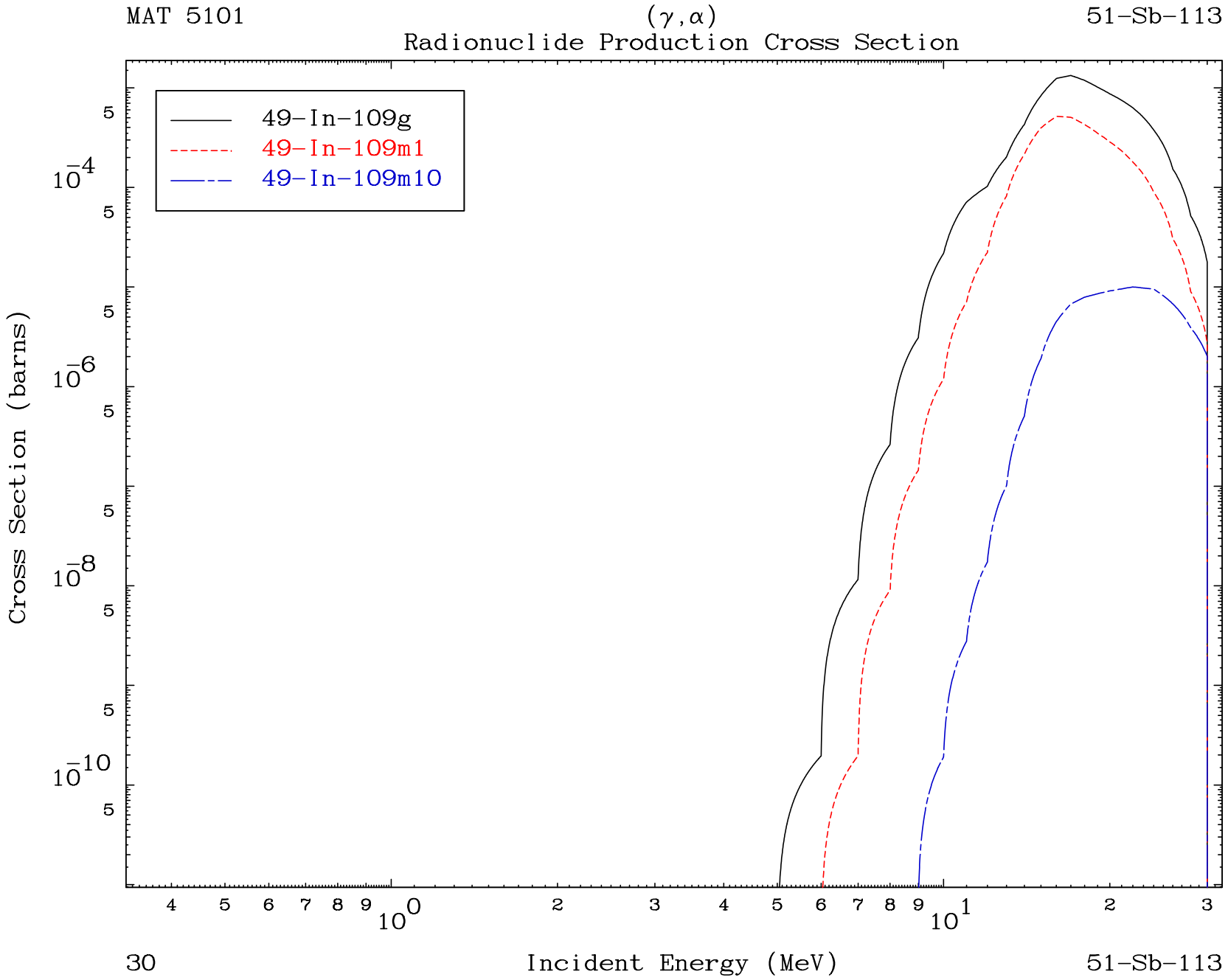

MAT 5101
(γ,remainder)
51-Sb-113
Radionuclide Production Cross Section
0.025
0.020
0.015
0.010
Cross Section (barns)
Photon
3
4
5
6
7
8
9
10^2
2
25
Incident Energy (MeV)
51-Sb-113

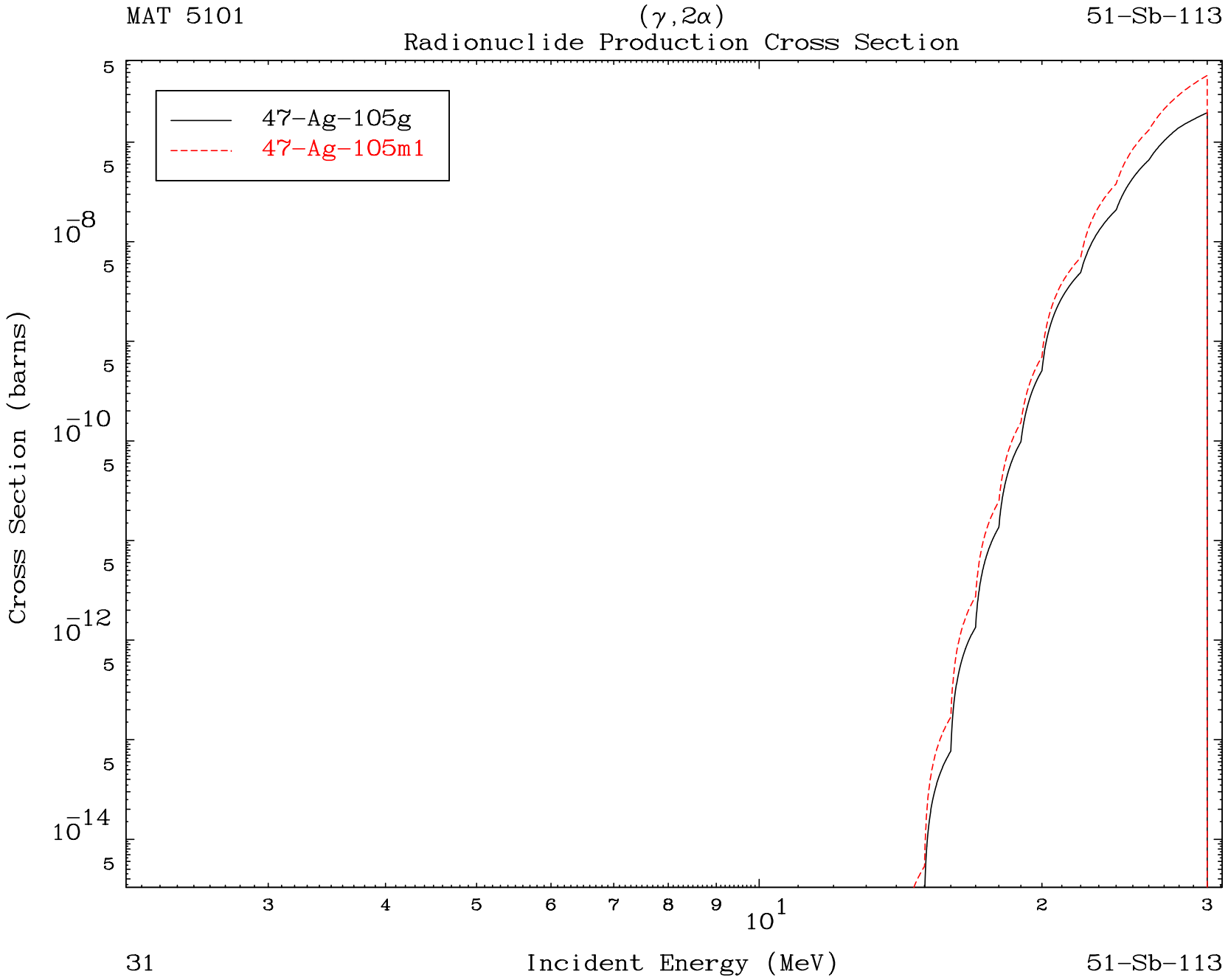

MAT 5101
(γ,n') α
51-Sb-113
Radionuclide Production Cross Section
49-In-108g
49-In-108m1
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
15
20
25
30
26
Incident Energy (MeV)
51-Sb-113

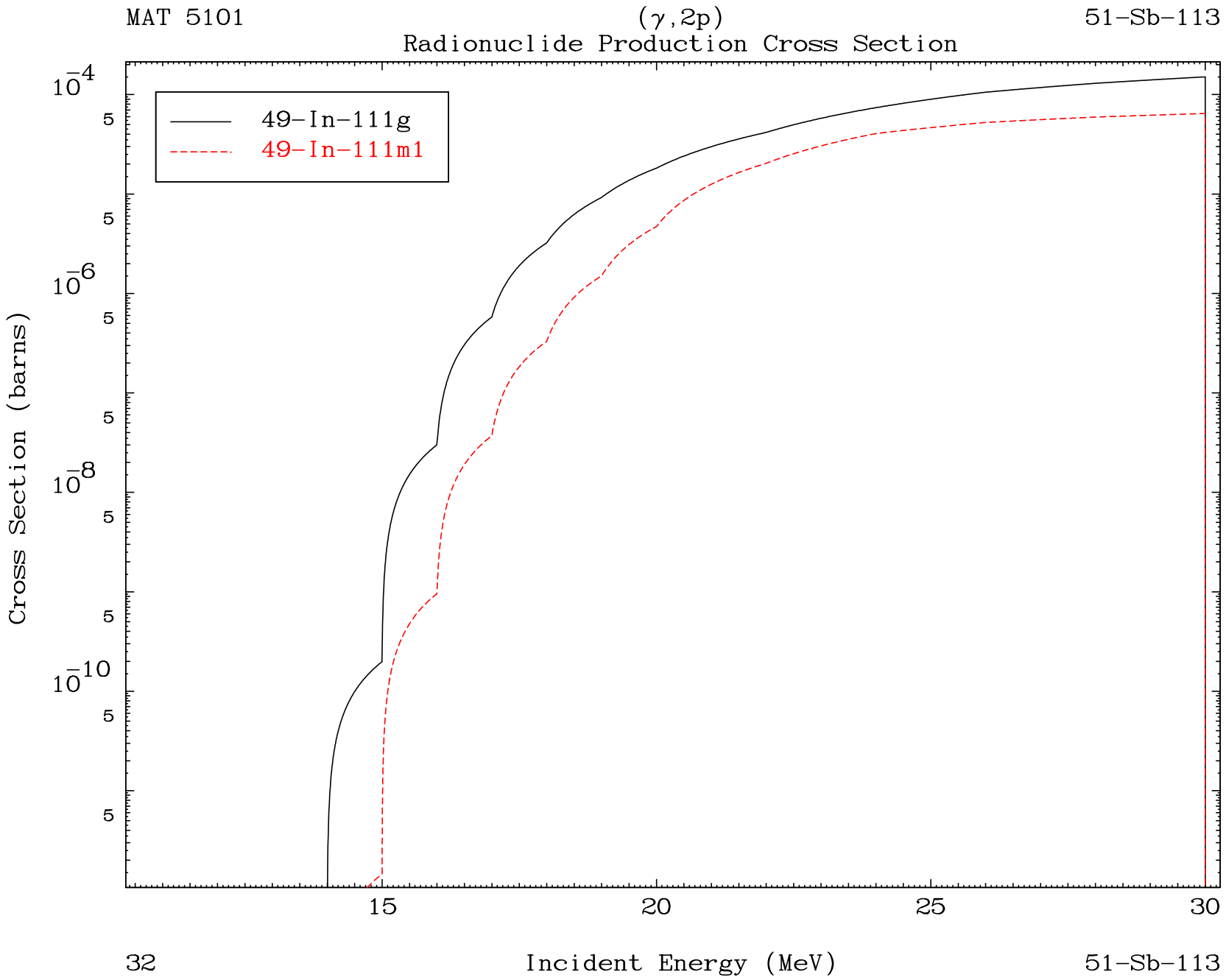

MAT 5101
(γ,2n) α
51-Sb-113
Radionuclide Production Cross Section
49-In-107g
49-In-107m1
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
20
22
24
26
28
30
27
Incident Energy (MeV)
51-Sb-113

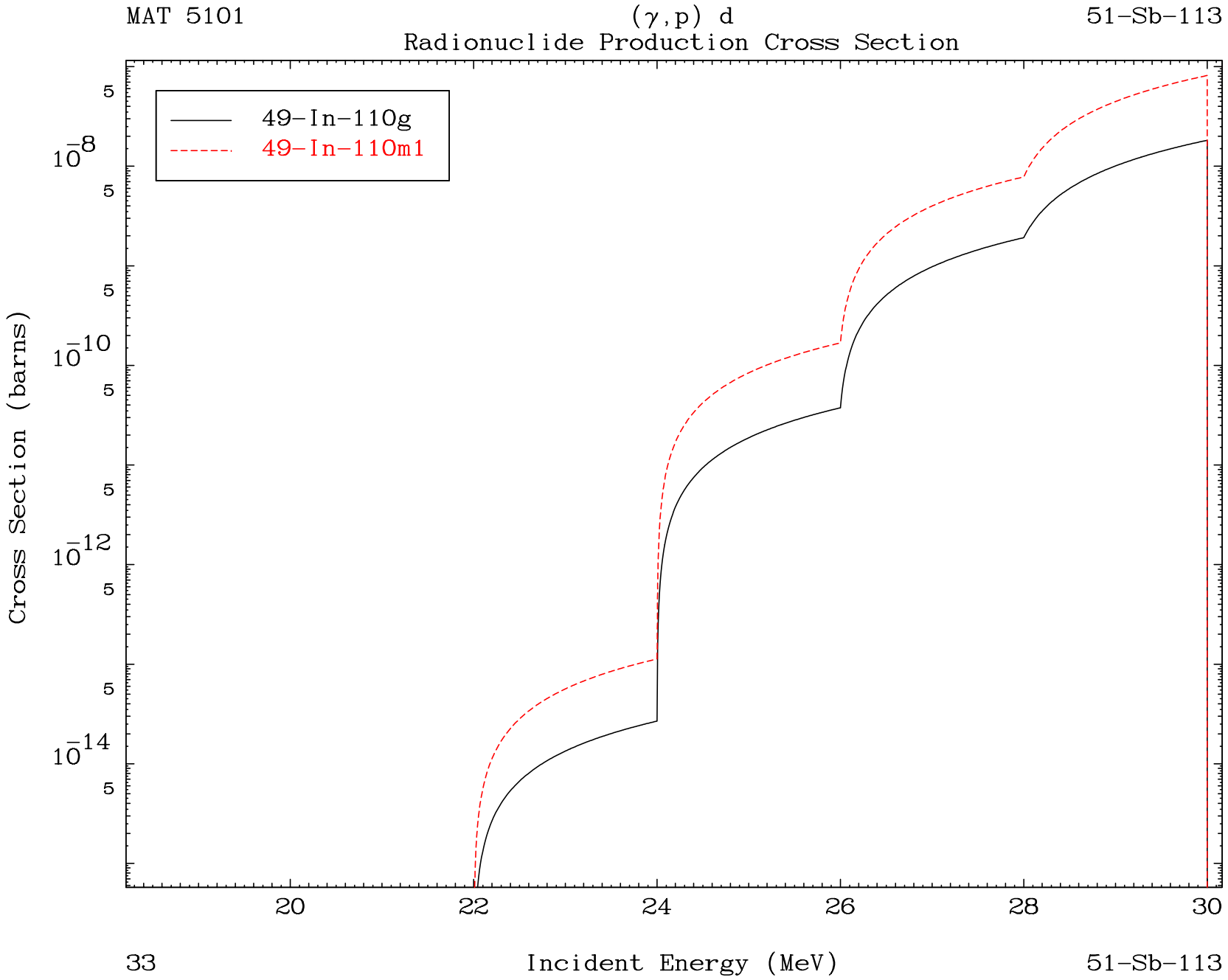

MAT 5101
(γ,2n) p
51-Sb-113
Radionuclide Production Cross Section
49-In-110g
49-In-110m1
Cross Section (barns)
10-6
10-8
10-10
10-12
5
22
24
26
28
30
28
Incident Energy (MeV)
51-Sb-113

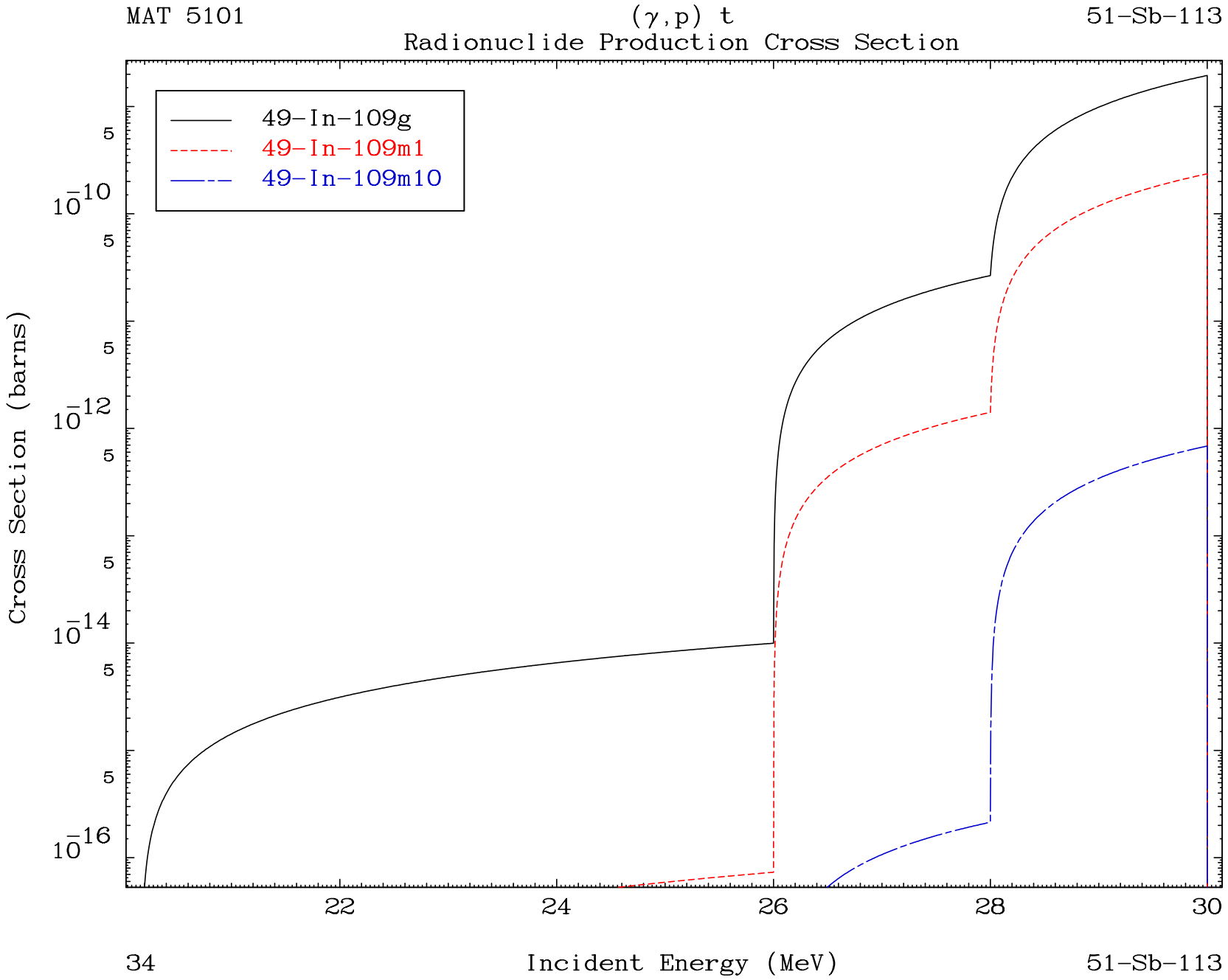

MAT 5101
(γ,He-3)
51-Sb-113
Radionuclide Production Cross Section
49-In-110g
49-In-110m1
Cross Section (barns)
10^-8
10^-10
10^-12
10^-14
10^-16
15
20
25
30
29
Incident Energy (MeV)
51-Sb-113


MAT 5101
(γ,α)
51-Sb-113
Radionuclide Production Cross Section
49-In-109g
49-In-109m1
49-In-109m10
Cross Section (barns)
10-4
10-6
10-8
10-10
100
101
Incident Energy (MeV)
30
51-Sb-113


MAT 5101
(γ,2α)
51-Sb-113
Radionuclide Production Cross Section
47-Ag-105g
47-Ag-105m1
Cross Section (barns)
10-8
10-10
10-12
10-14
5
3
4
5
6
7
8
9
101
2
3
Incident Energy (MeV)
31
51-Sb-113


MAT 5101
(γ,2p)
51-Sb-113
Radionuclide Production Cross Section
49-In-111g
49-In-111m1
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
15
20
25
30
32
Incident Energy (MeV)
51-Sb-113


MAT 5101
(γ,p) d
51-Sb-113
Radionuclide Production Cross Section
49-In-110g
49-In-110m1
Cross Section (barns)
10-8
10-10
10-12
10-14
5
20
22
24
26
28
30
33
Incident Energy (MeV)
51-Sb-113


MAT 5101
(γ,p) t
51-Sb-113
Radionuclide Production Cross Section
49-In-109g
49-In-109m1
49-In-109m10
Cross Section (barns)
10-10
10-12
10-14
10-16
5
22
24
26
28
30
34
Incident Energy (MeV)
51-Sb-113