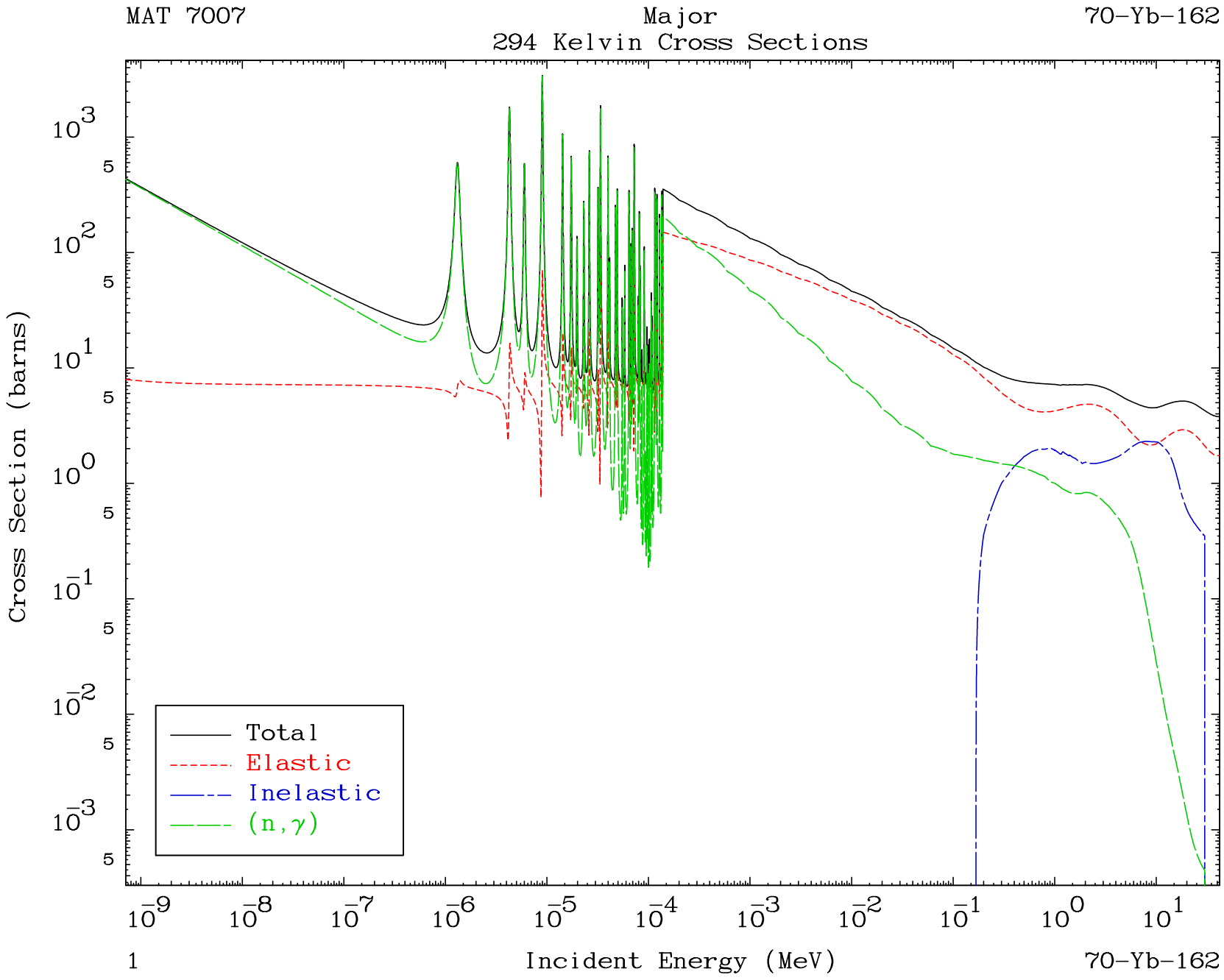
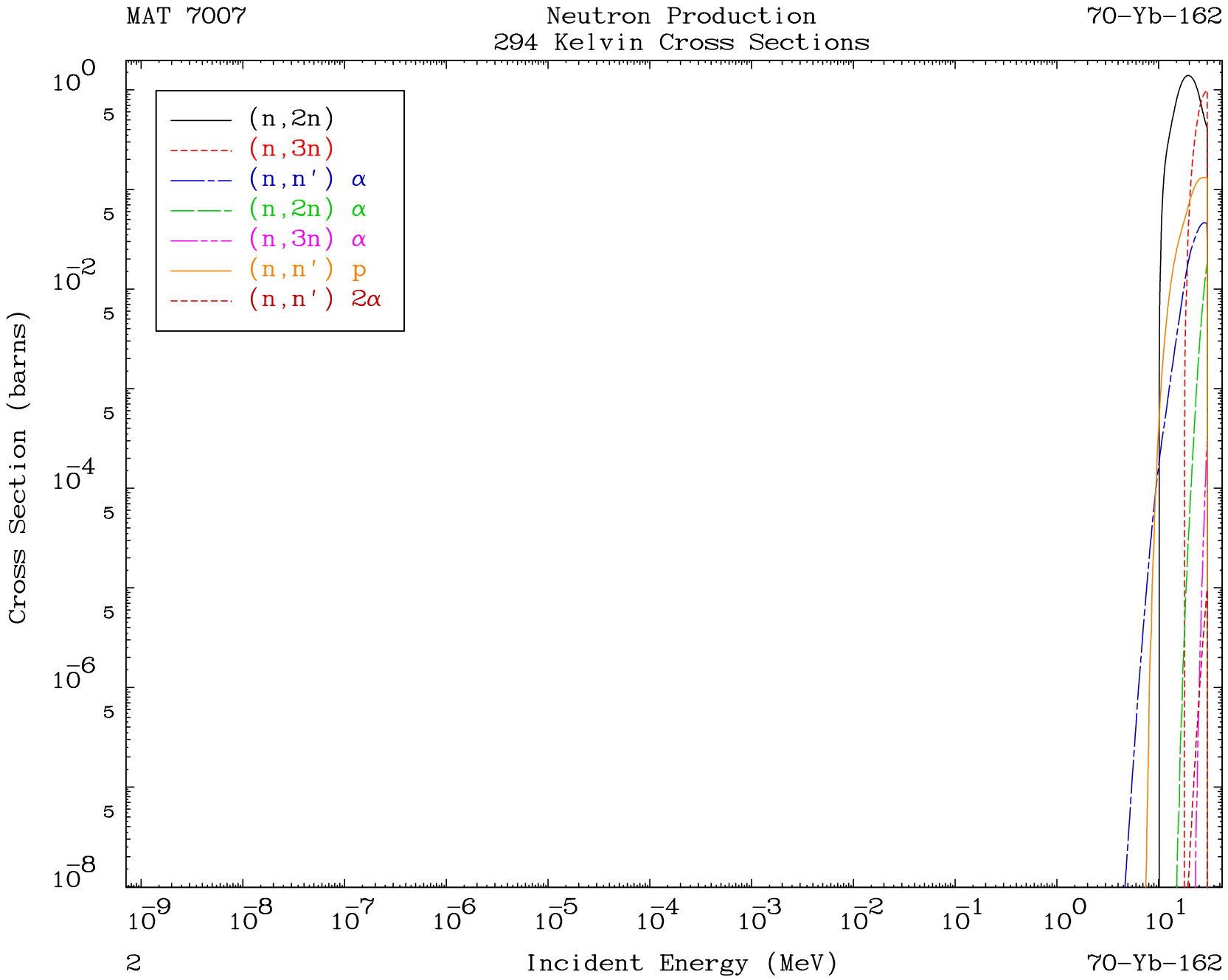
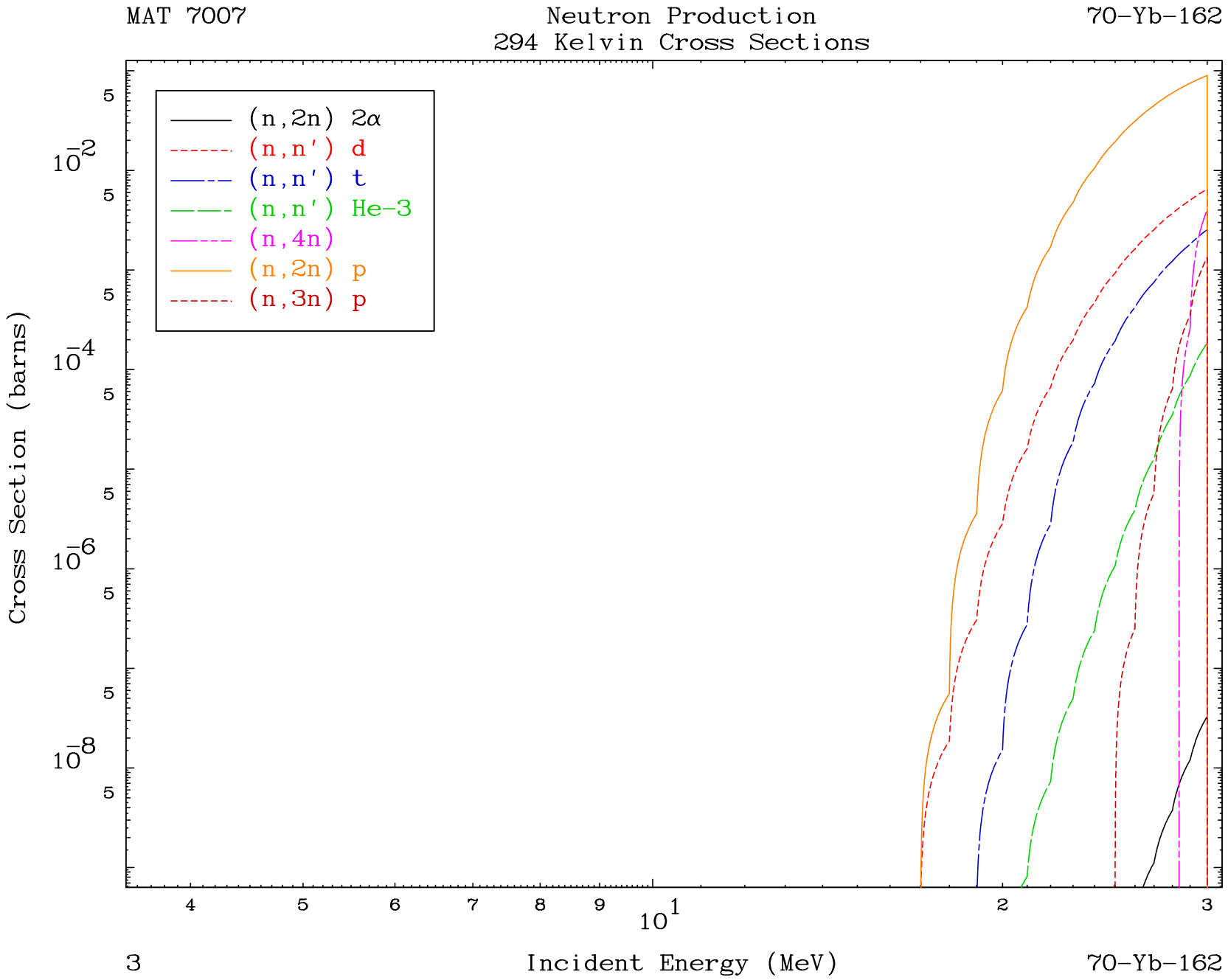
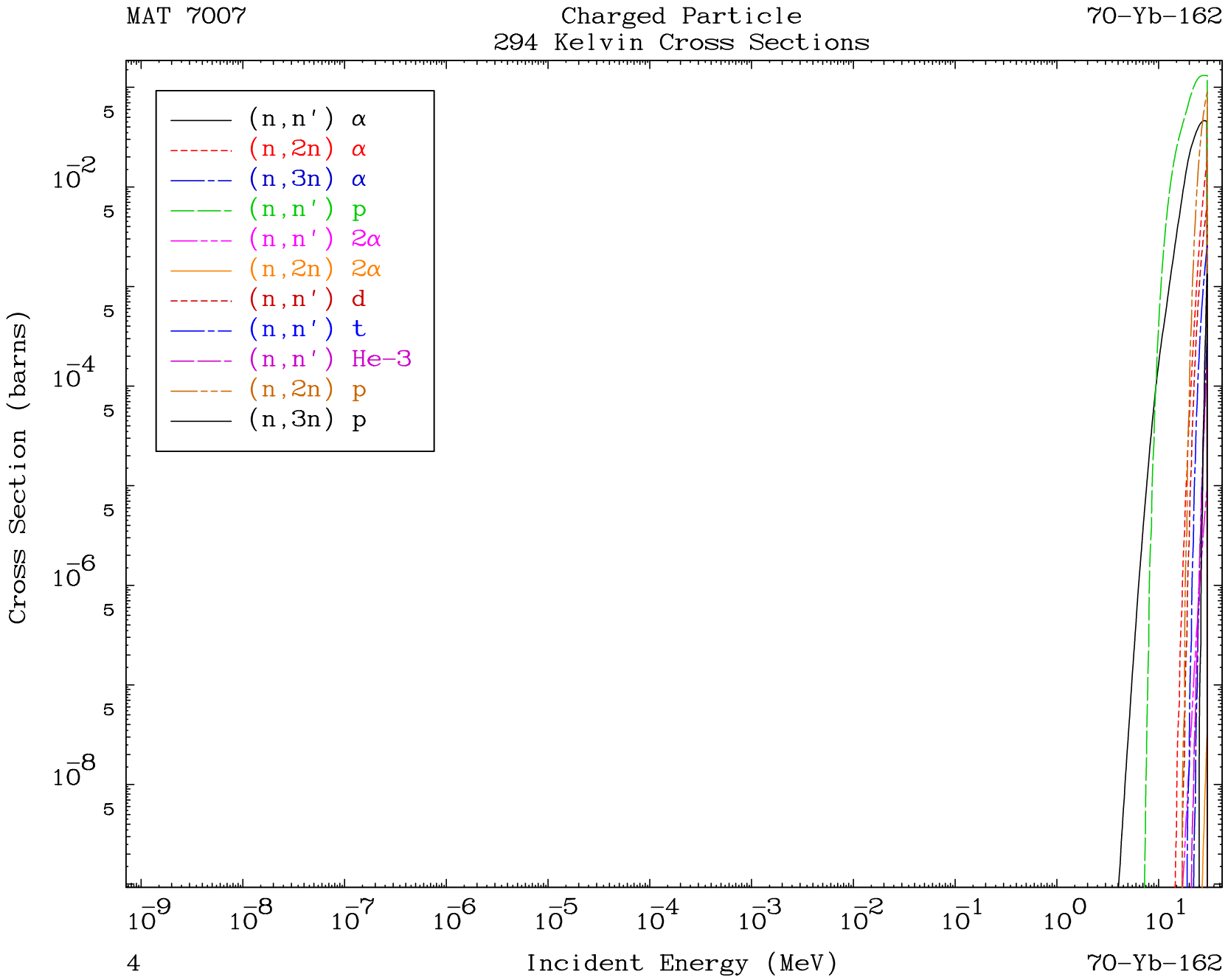
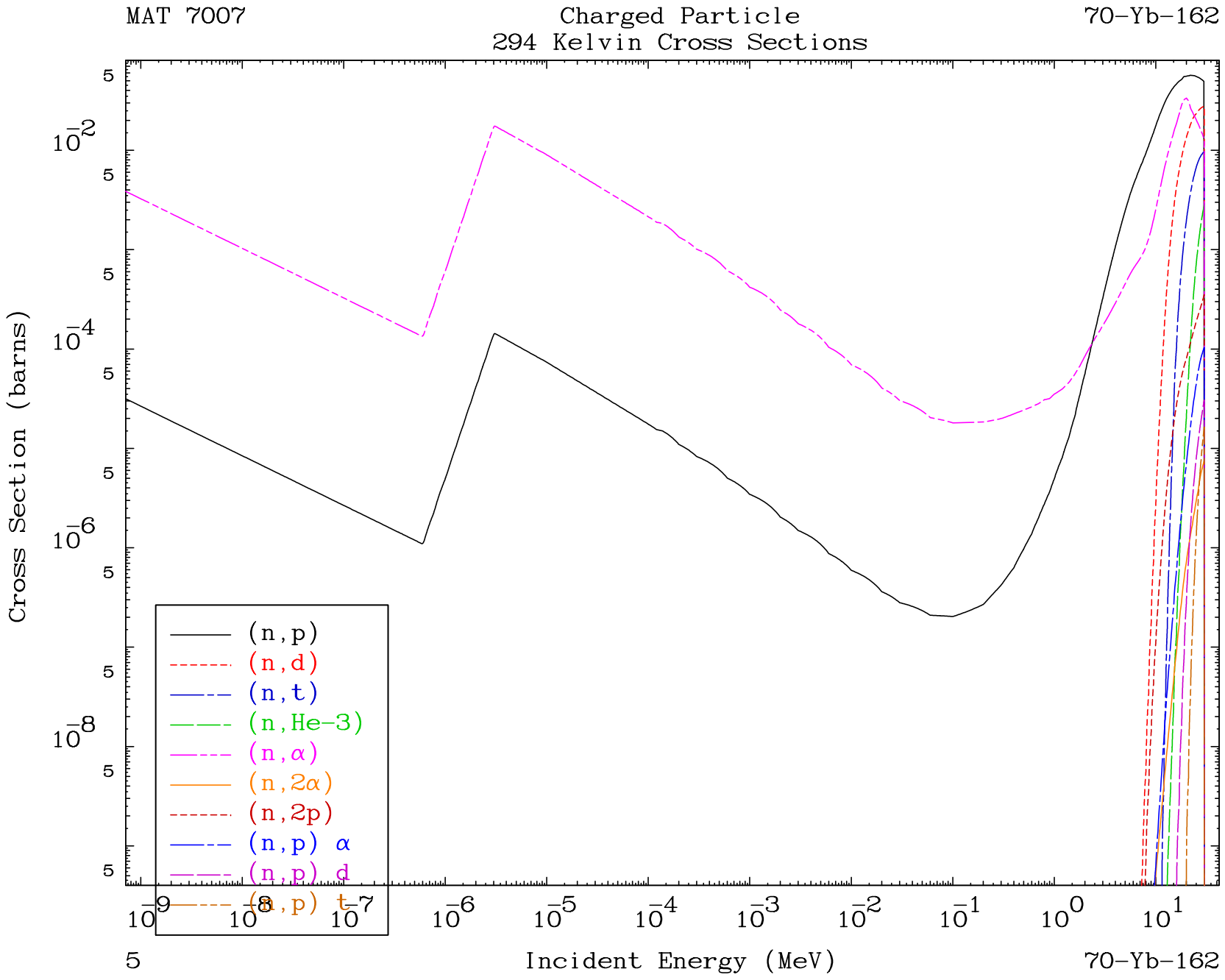
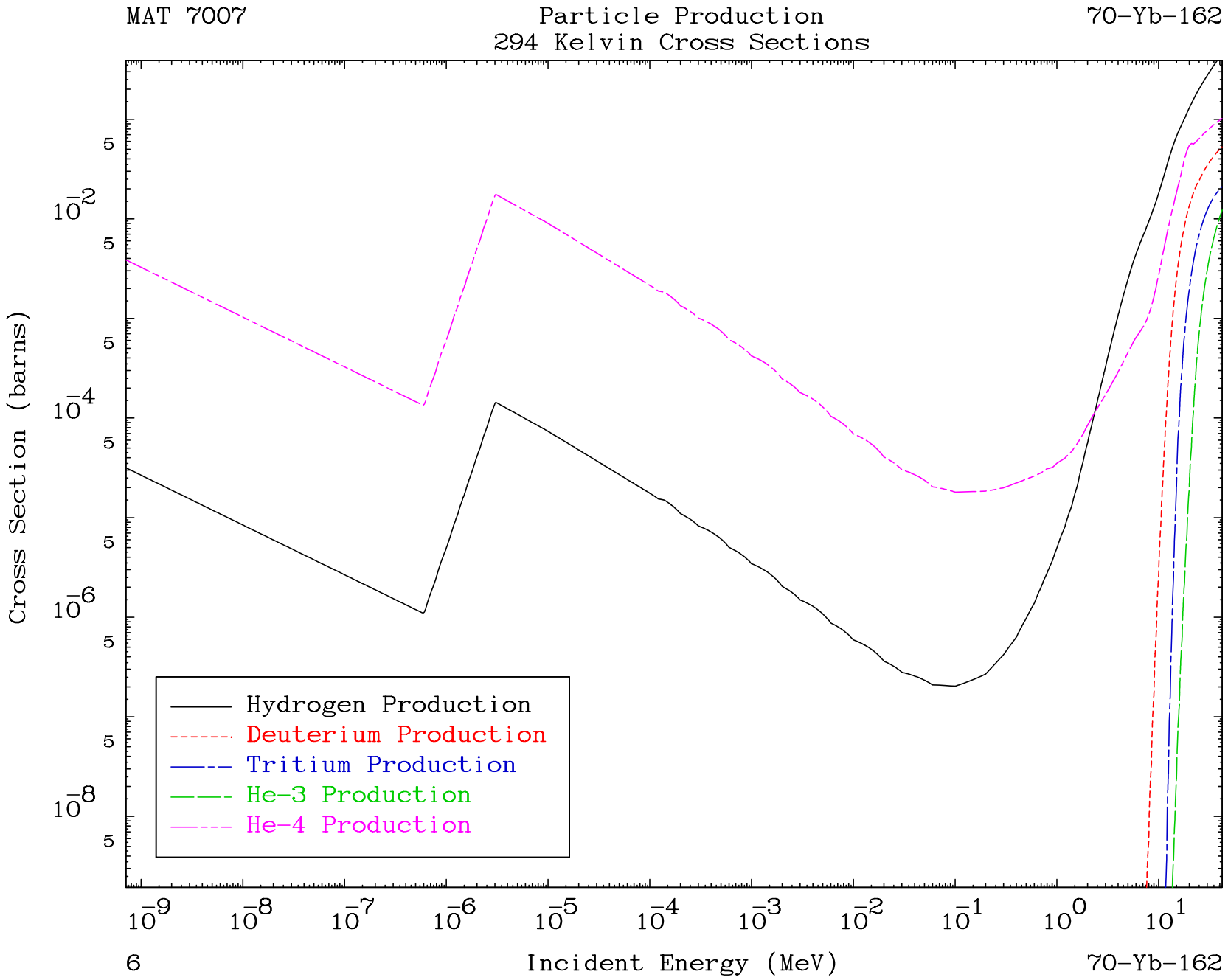

MAT 7007
Major
70-Yb-162
294 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
70-Yb-162
Total
Elastic
Inelastic
(n,γ)

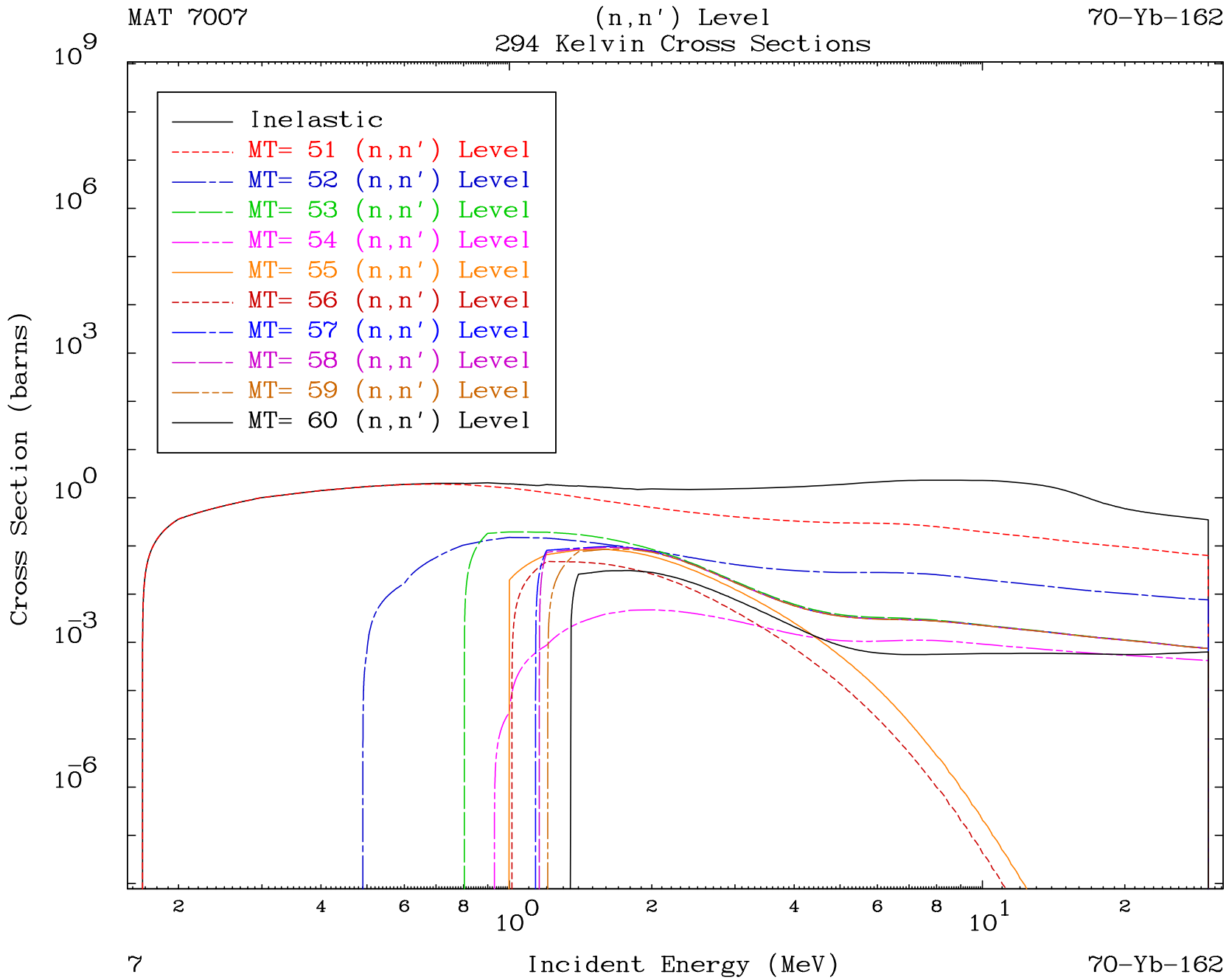

MAT 7007
Neutron Production
294 Kelvin Cross Sections
70-Yb-162
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
Cross Section (barns)
Incident Energy (MeV)
70-Yb-162
2

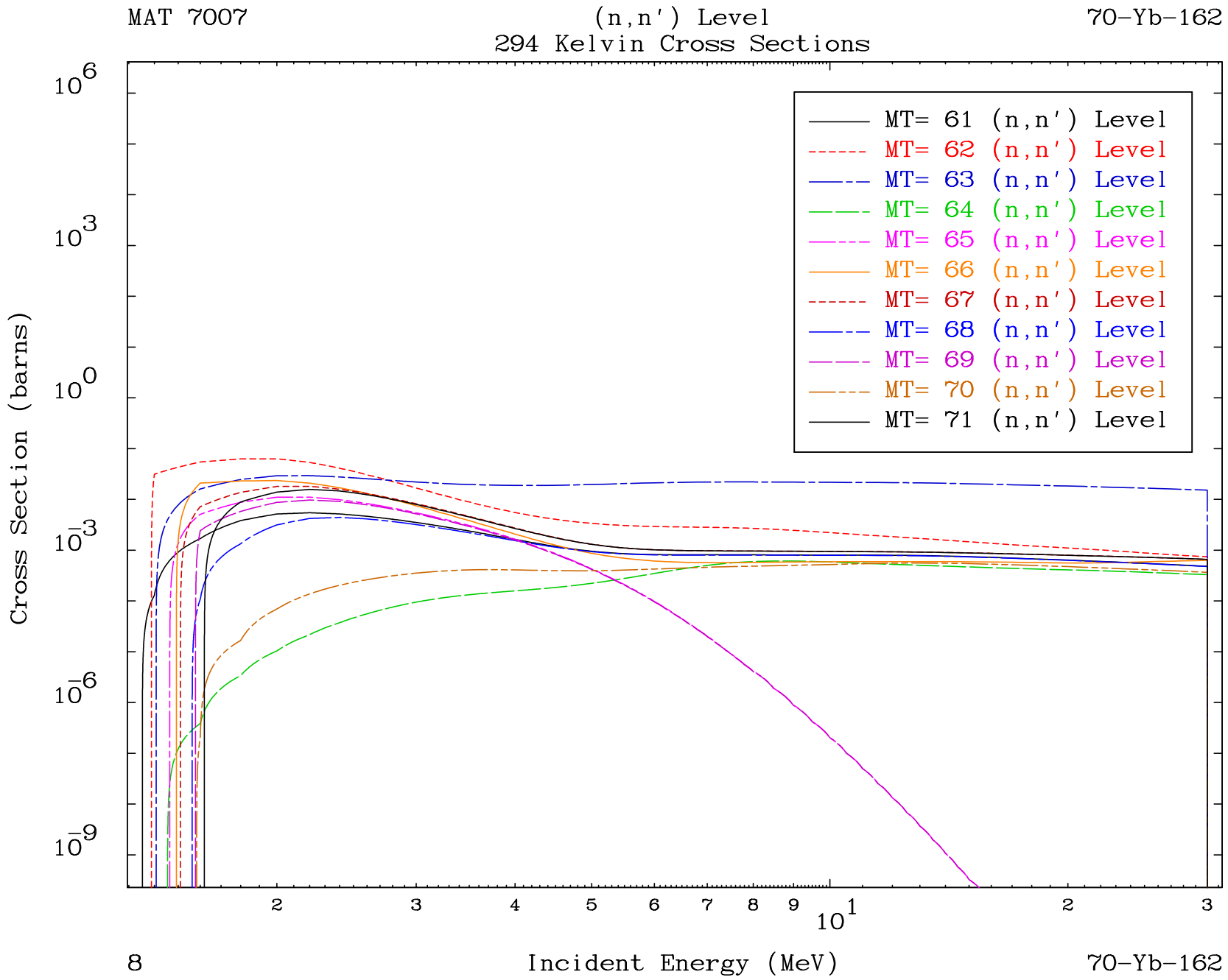

MAT 7007
Neutron Production
294 Kelvin Cross Sections
70-Yb-162
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
Cross Section (barns)
10-2
10-4
10-6
10-8
4
5
6
7
8
9
101
2
3
Incident Energy (MeV)
3
70-Yb-162

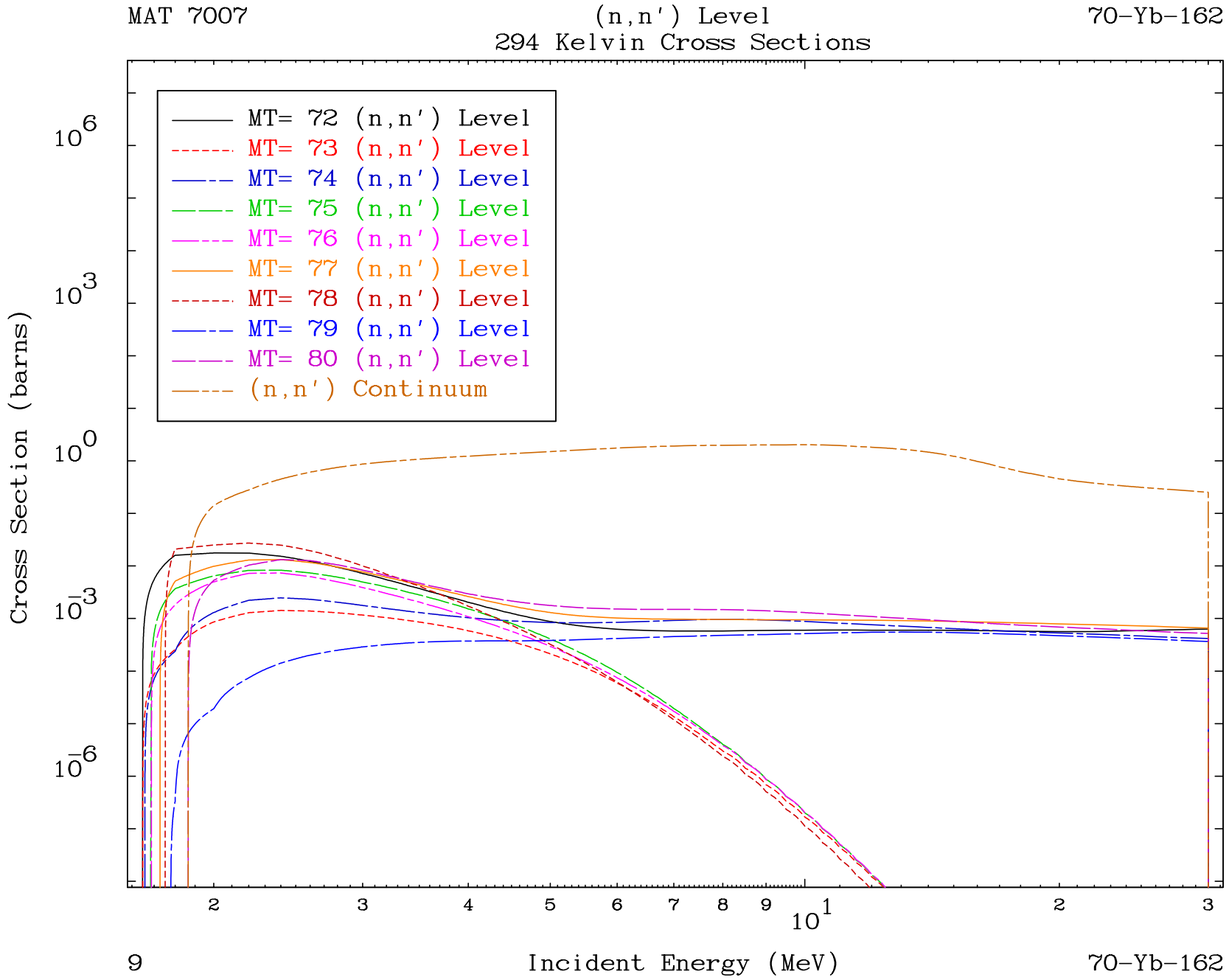

MAT 7007
Charged Particle
294 Kelvin Cross Sections
70-Yb-162
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
4
70-Yb-162

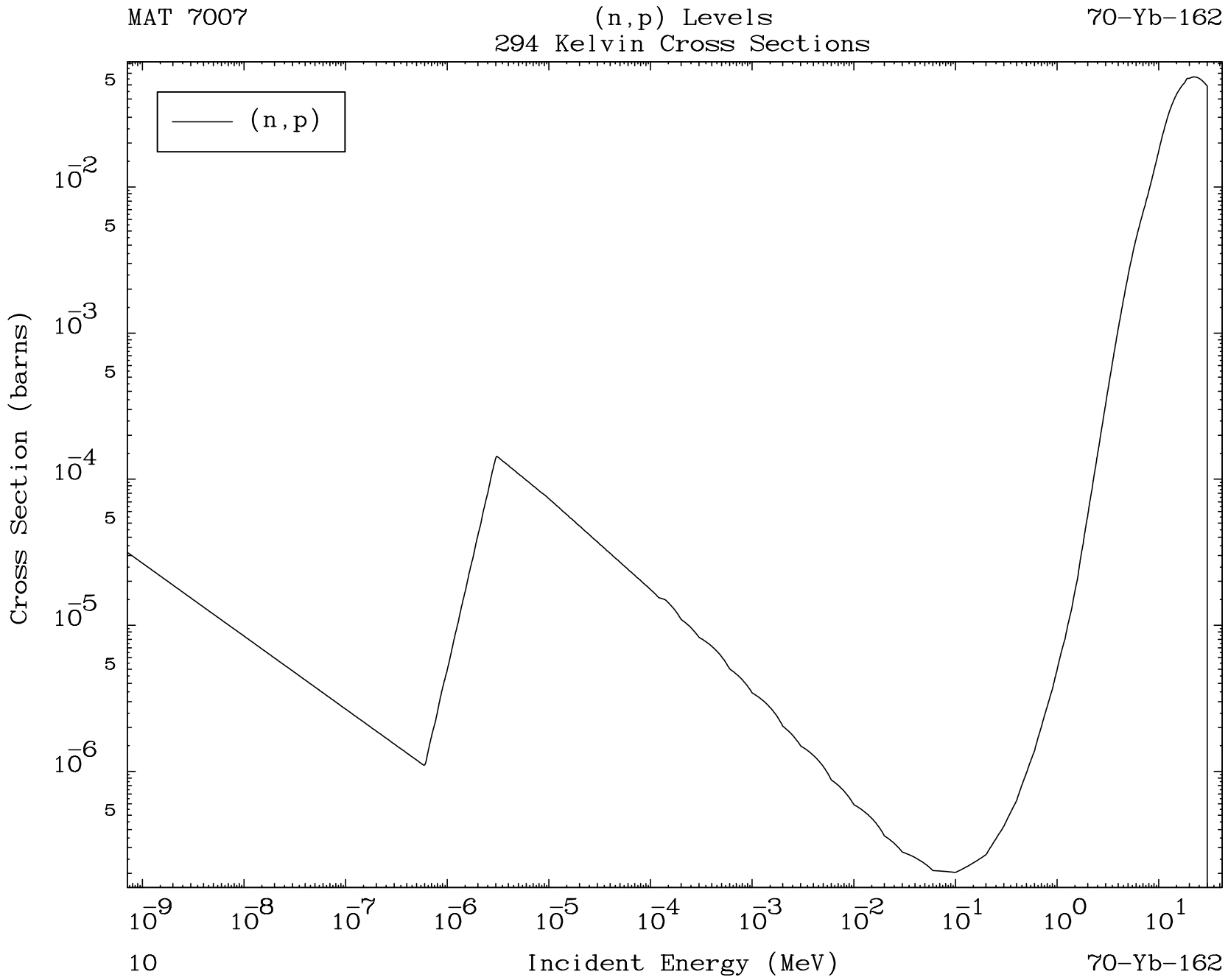

MAT 7007
Charged Particle
70-Yb-162
294 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
70-Yb-162
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t

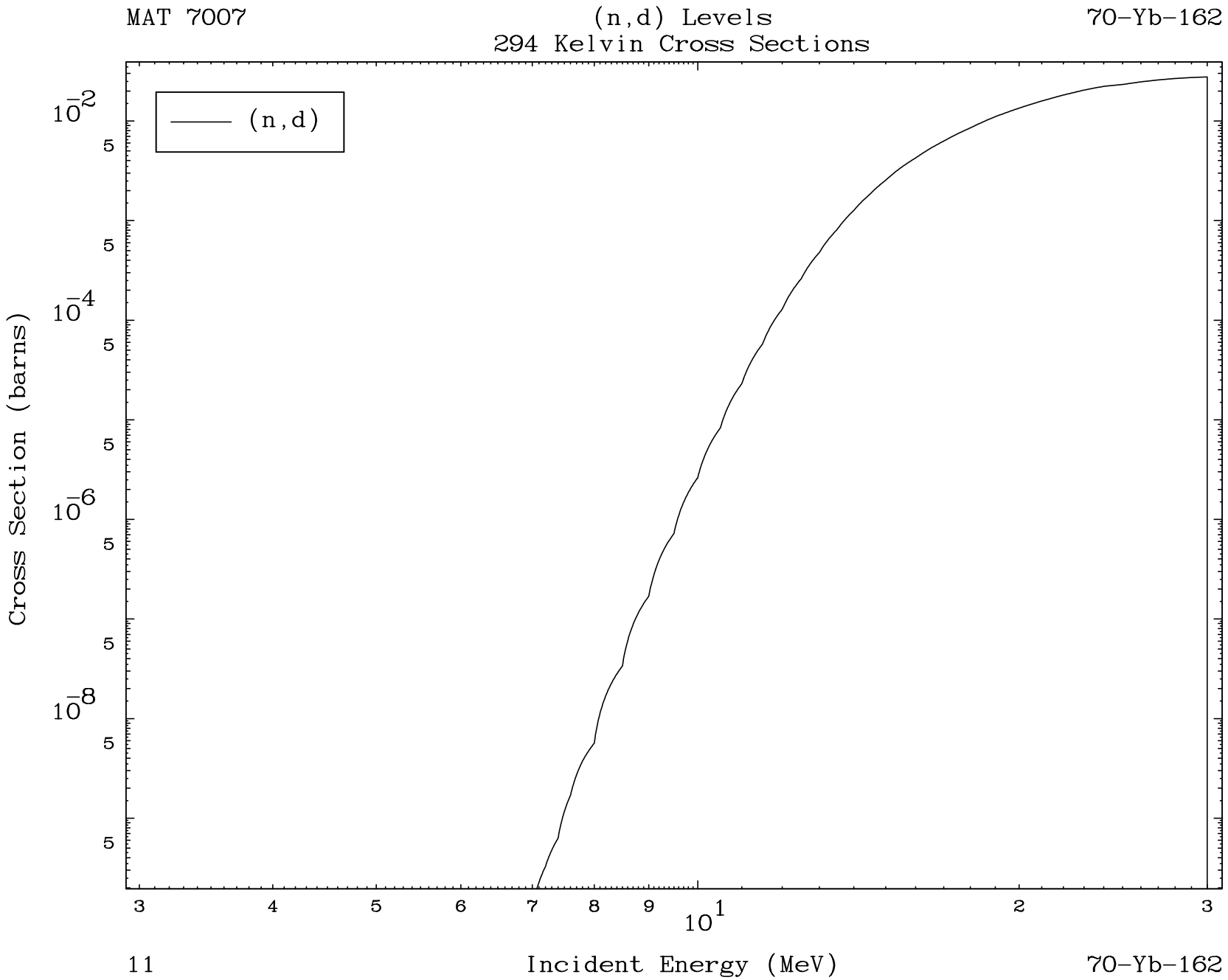

MAT 7007
Particle Production
294 Kelvin Cross Sections
70-Yb-162
Cross Section (barns)
10-2
10-4
10-6
10-8
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
10-9
10-8
10-7
10-6
10-5
10-4
10-3
10-2
10-1
100
101
Incident Energy (MeV)
6
70-Yb-162

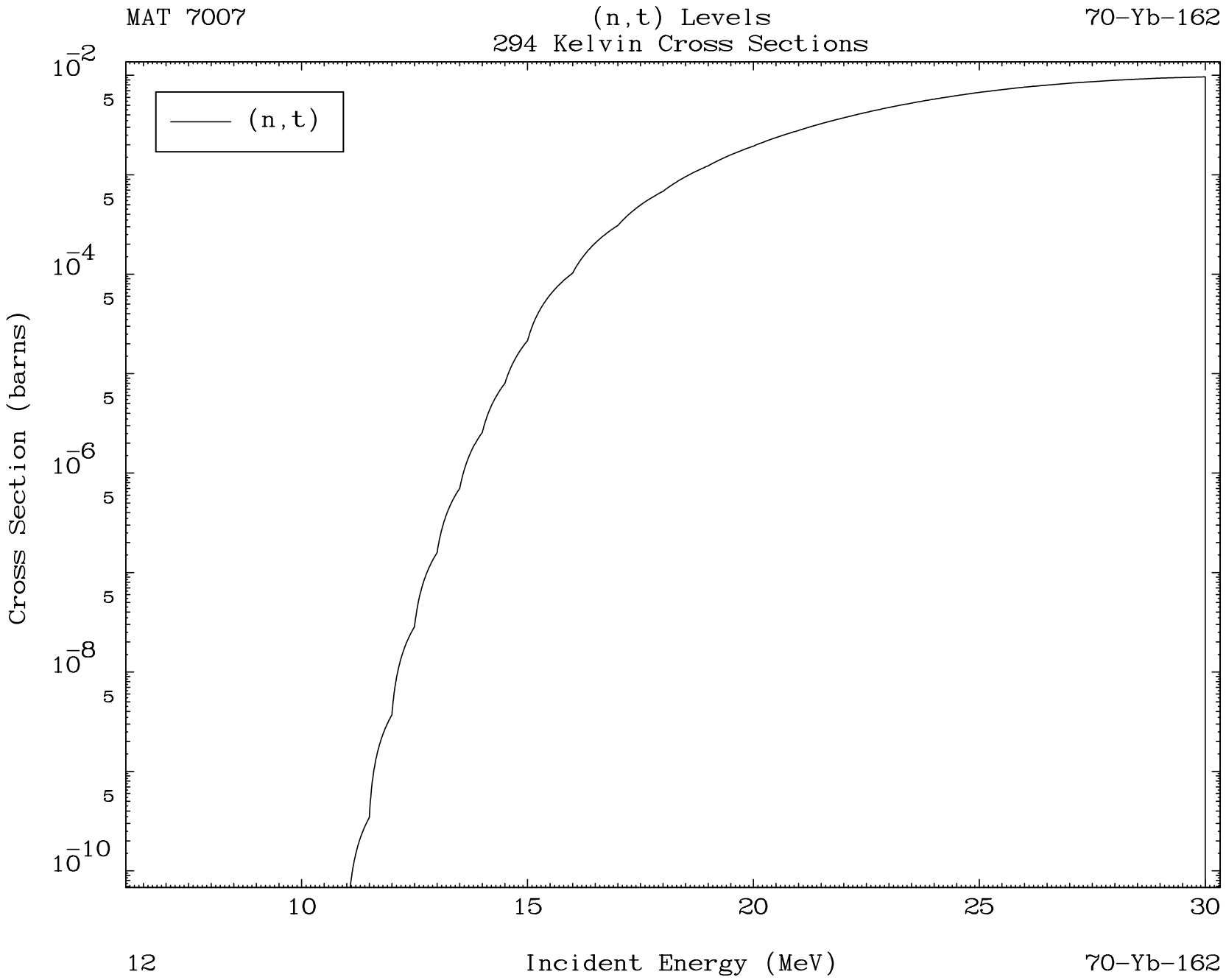

MAT 7007
(n,n') Level
70-Yb-162
294 Kelvin Cross Sections
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
MT= 58 (n,n') Level
MT= 59 (n,n') Level
MT= 60 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
7
70-Yb-162


MAT 7007
(n,n') Level
294 Kelvin Cross Sections
70-Yb-162
MT= 61 (n,n') Level
MT= 62 (n,n') Level
MT= 63 (n,n') Level
MT= 64 (n,n') Level
MT= 65 (n,n') Level
MT= 66 (n,n') Level
MT= 67 (n,n') Level
MT= 68 (n,n') Level
MT= 69 (n,n') Level
MT= 70 (n,n') Level
MT= 71 (n,n') Level
Cross Section (barns)
10^6
10^3
10^0
10^-3
10^-6
10^-9
2
3
4
5
6
7
8
9
10^1
2
3
Incident Energy (MeV)
8
70-Yb-162

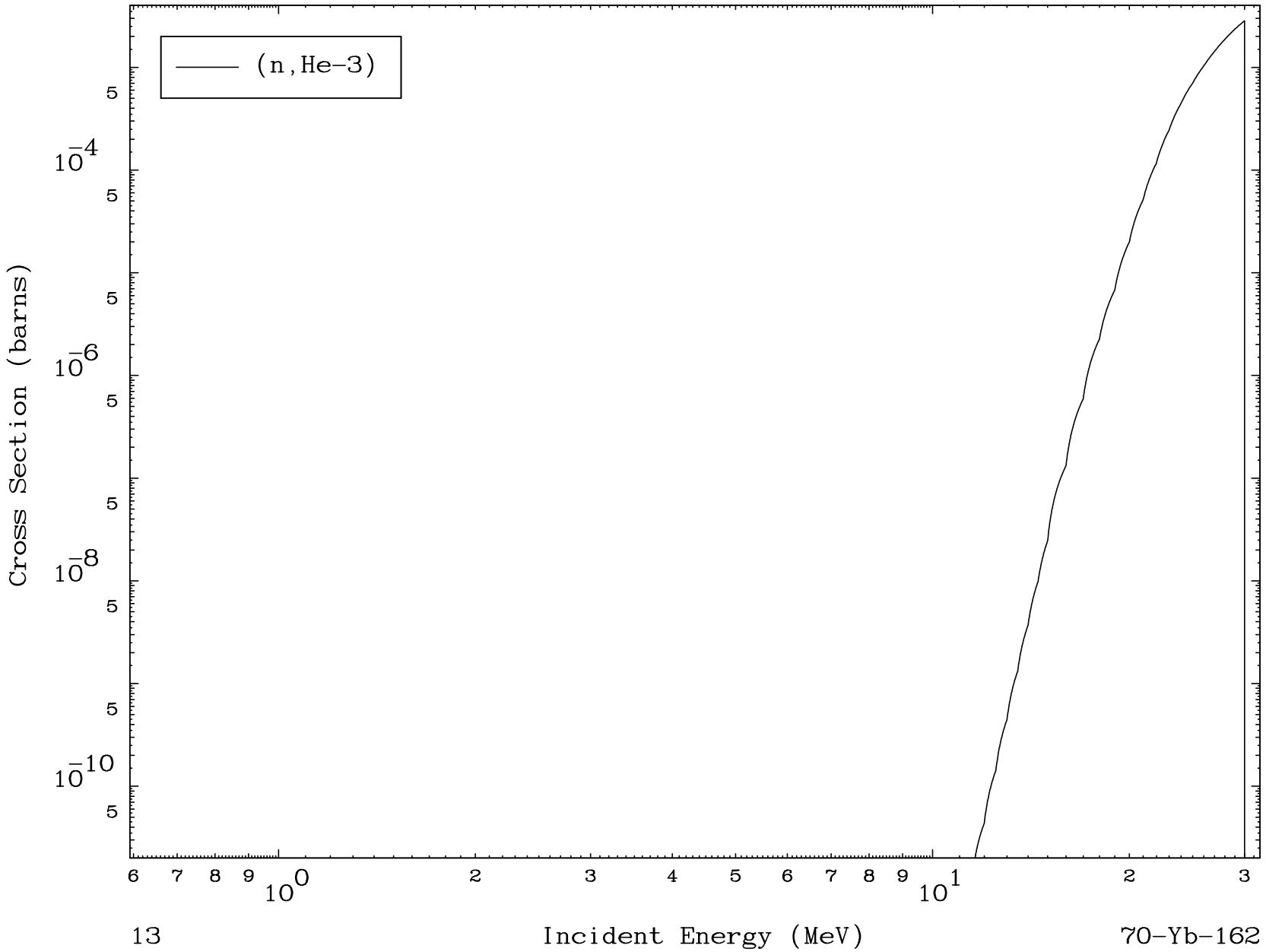

MAT 7007
(n,n') Level
70-Yb-162
294 Kelvin Cross Sections
MT= 72 (n,n') Level
MT= 73 (n,n') Level
MT= 74 (n,n') Level
MT= 75 (n,n') Level
MT= 76 (n,n') Level
MT= 77 (n,n') Level
MT= 78 (n,n') Level
MT= 79 (n,n') Level
MT= 80 (n,n') Level
(n,n') Continuum
Cross Section (barns)
10^6
10^3
10^0
10^-3
10^-6
2
3
4
5
6
7
8
9
10^1
2
3
9
Incident Energy (MeV)
70-Yb-162

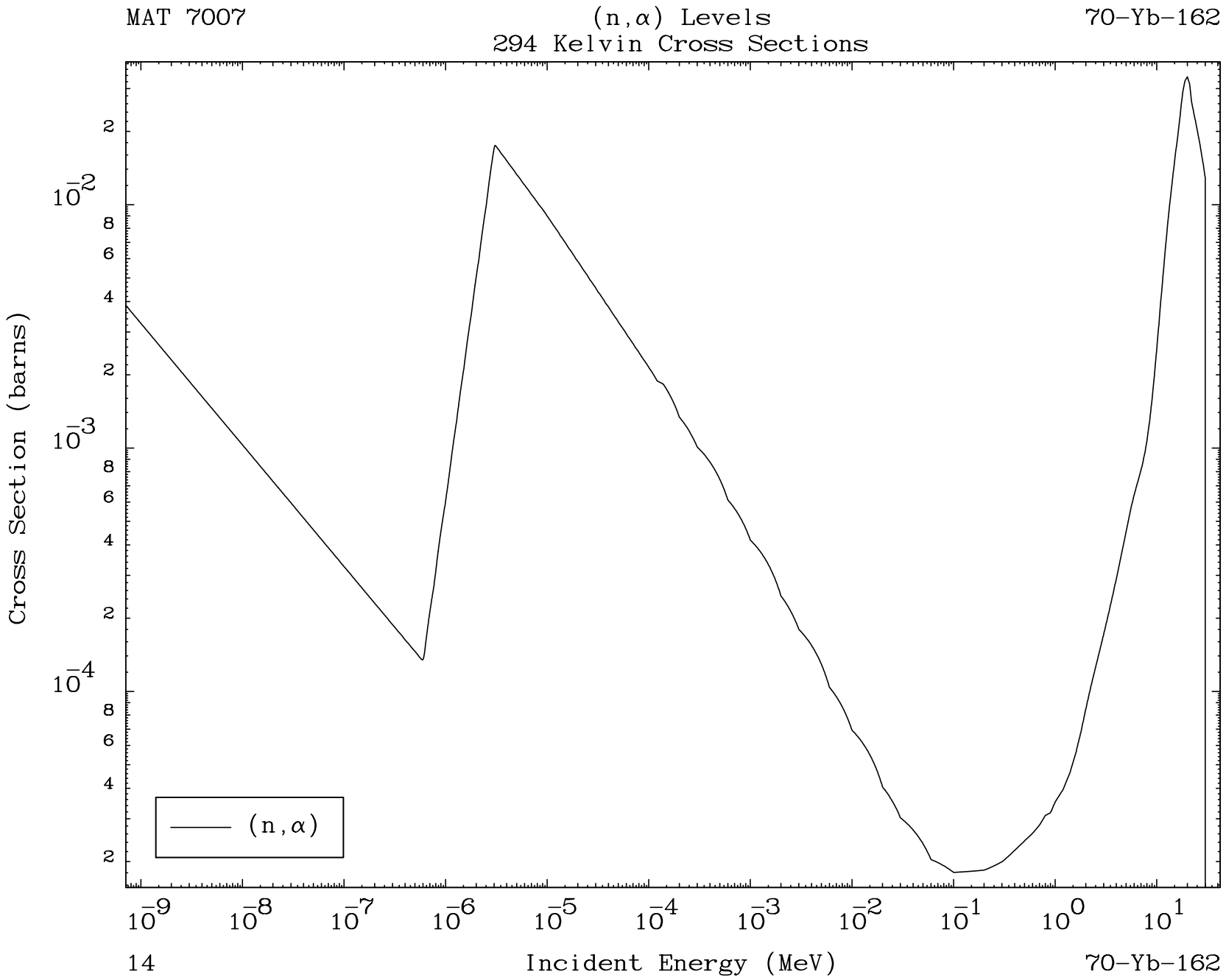

MAT 7007
(n,p) Levels
70-Yb-162
294 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
70-Yb-162

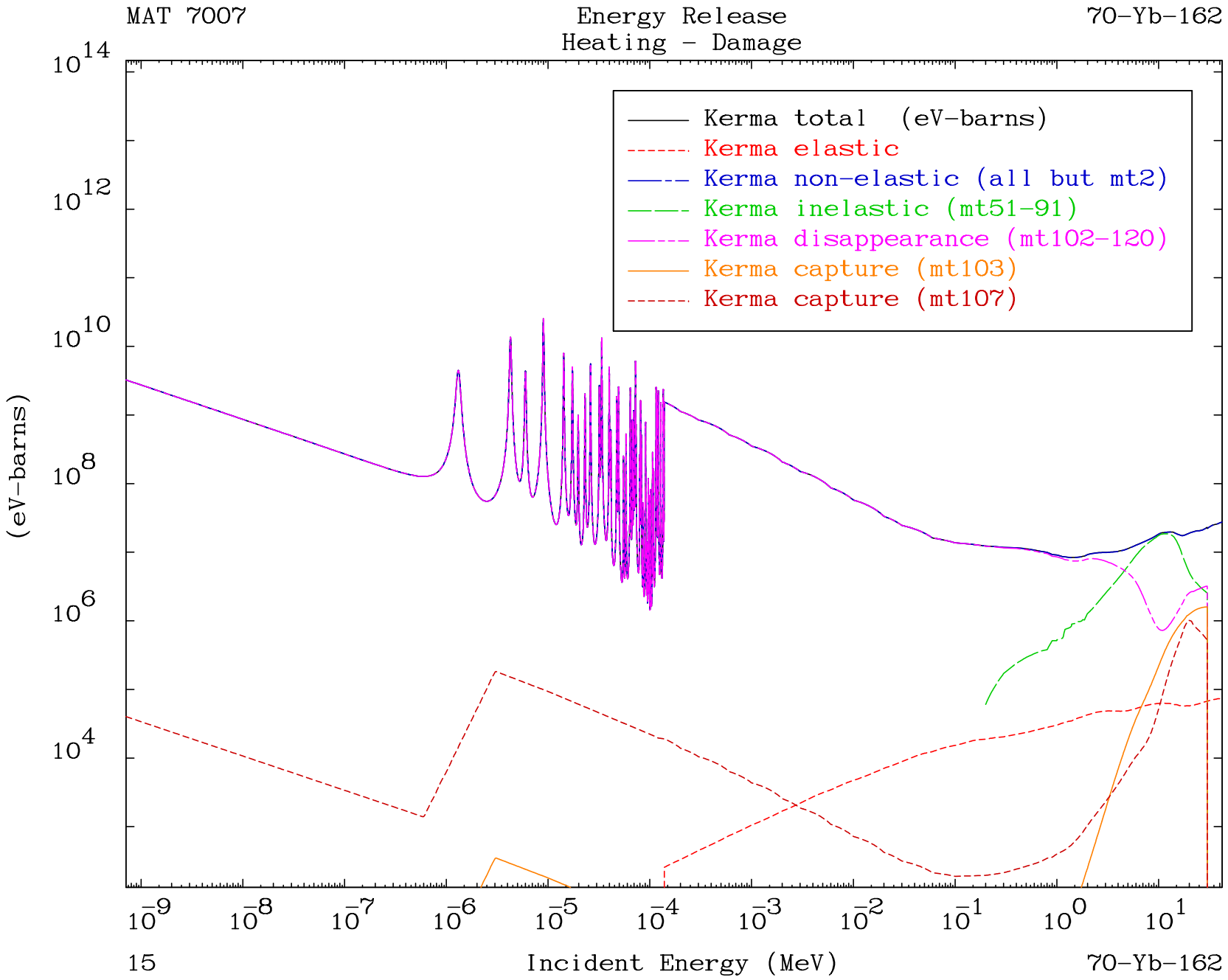

MAT 7007
(n,d) Levels
70-Yb-162
294 Kelvin Cross Sections
(n,d)
Cross Section (barns)
10-2
10-4
10-6
10-8
5
3
4
5
6
7
8
9
101
2
3
Incident Energy (MeV)
11
70-Yb-162

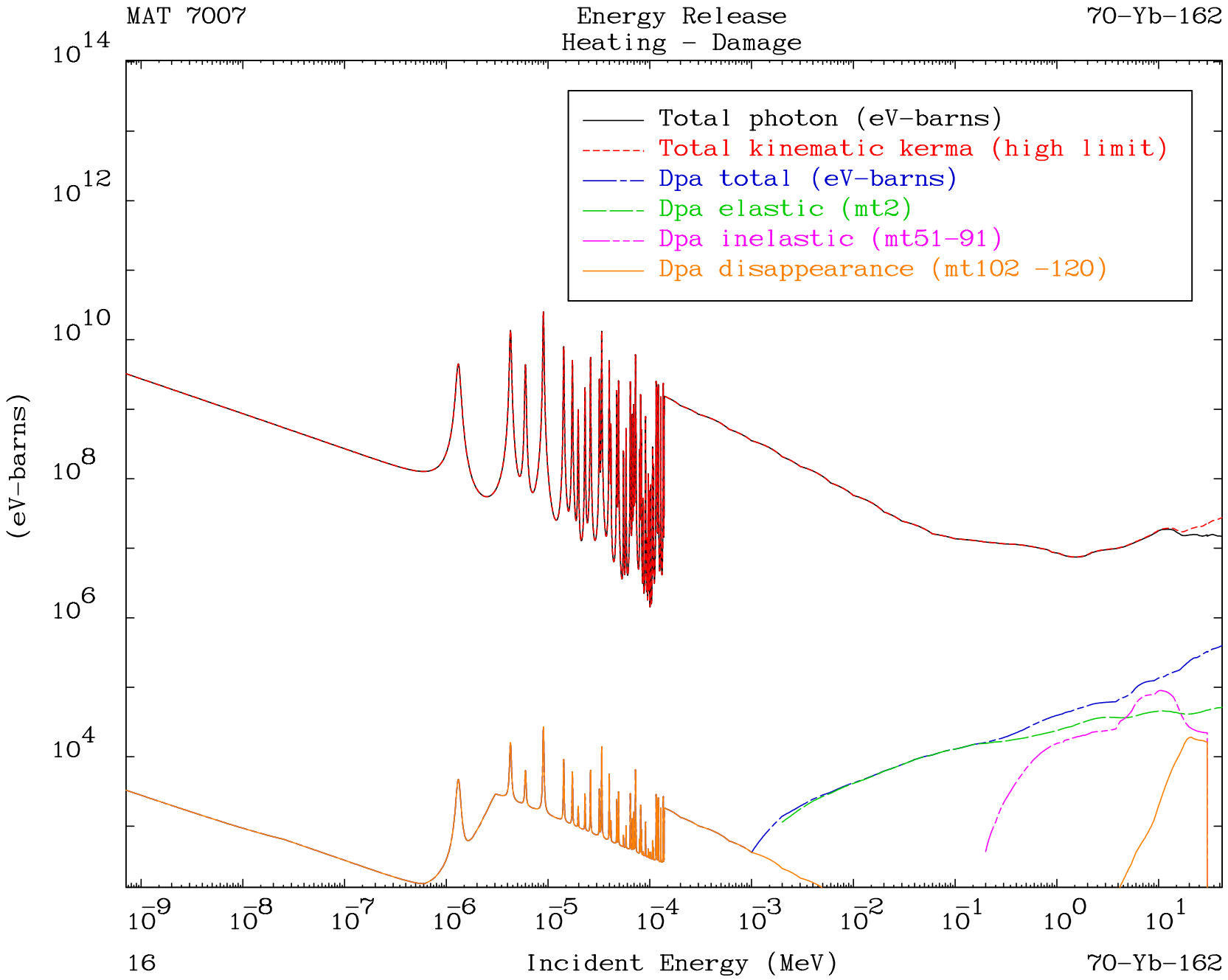

MAT 7007
(n,t) Levels
70-Yb-162
294 Kelvin Cross Sections
(n,t)
Cross Section (barns)
10^-2
5
10^-4
5
10^-6
5
10^-8
5
10^-10
10
15
20
25
30
12
Incident Energy (MeV)
70-Yb-162

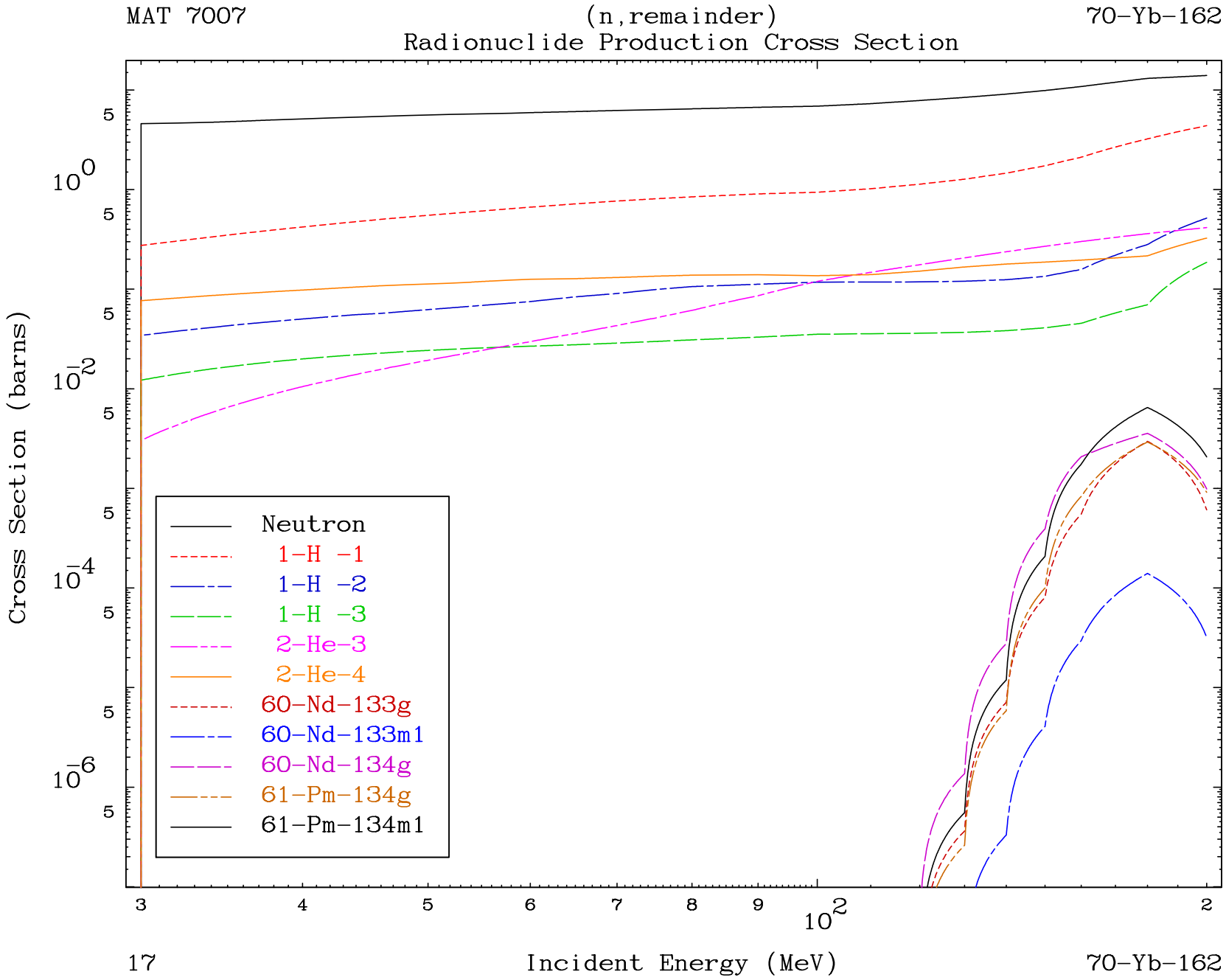
294 Kelvin Cross Sections

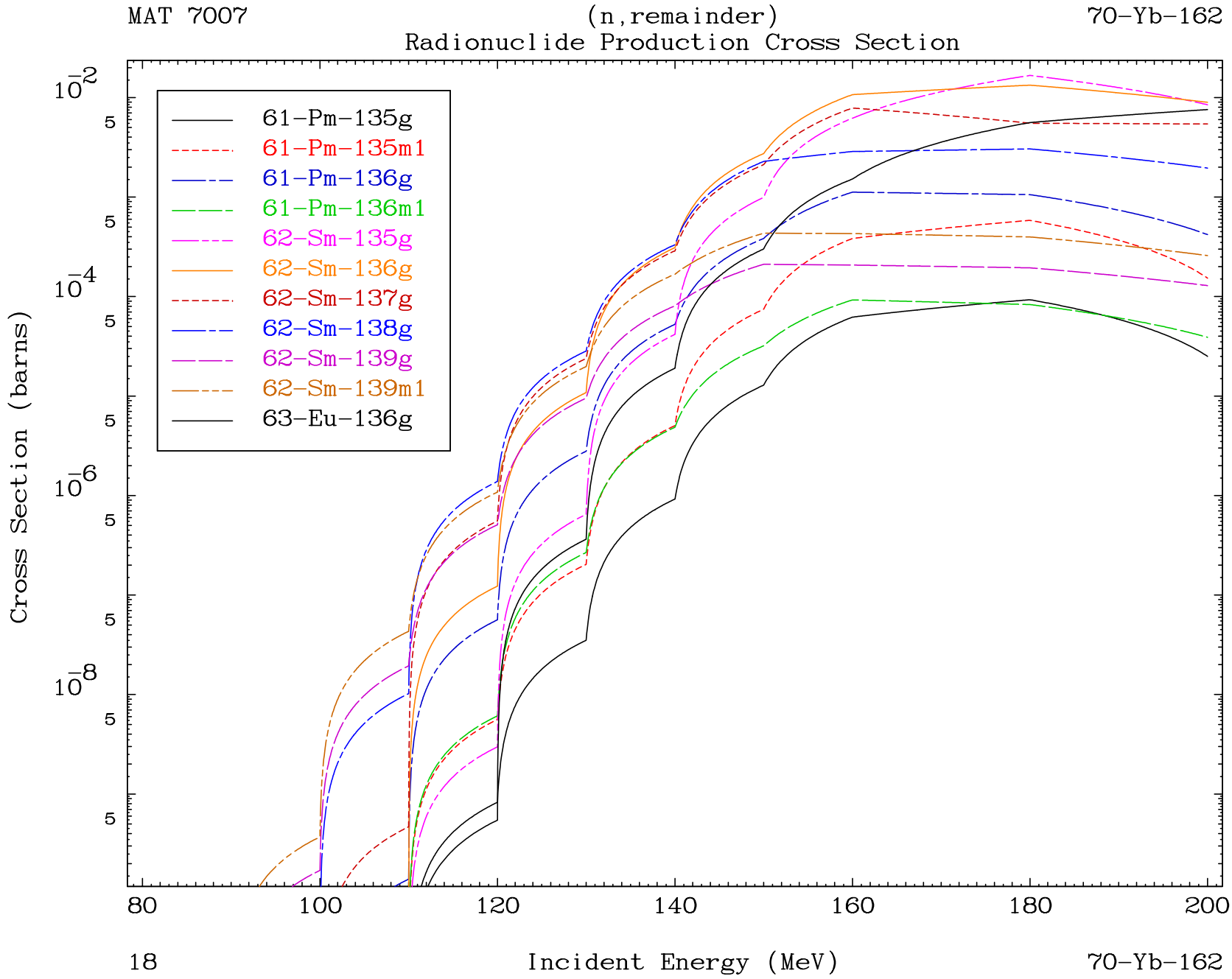


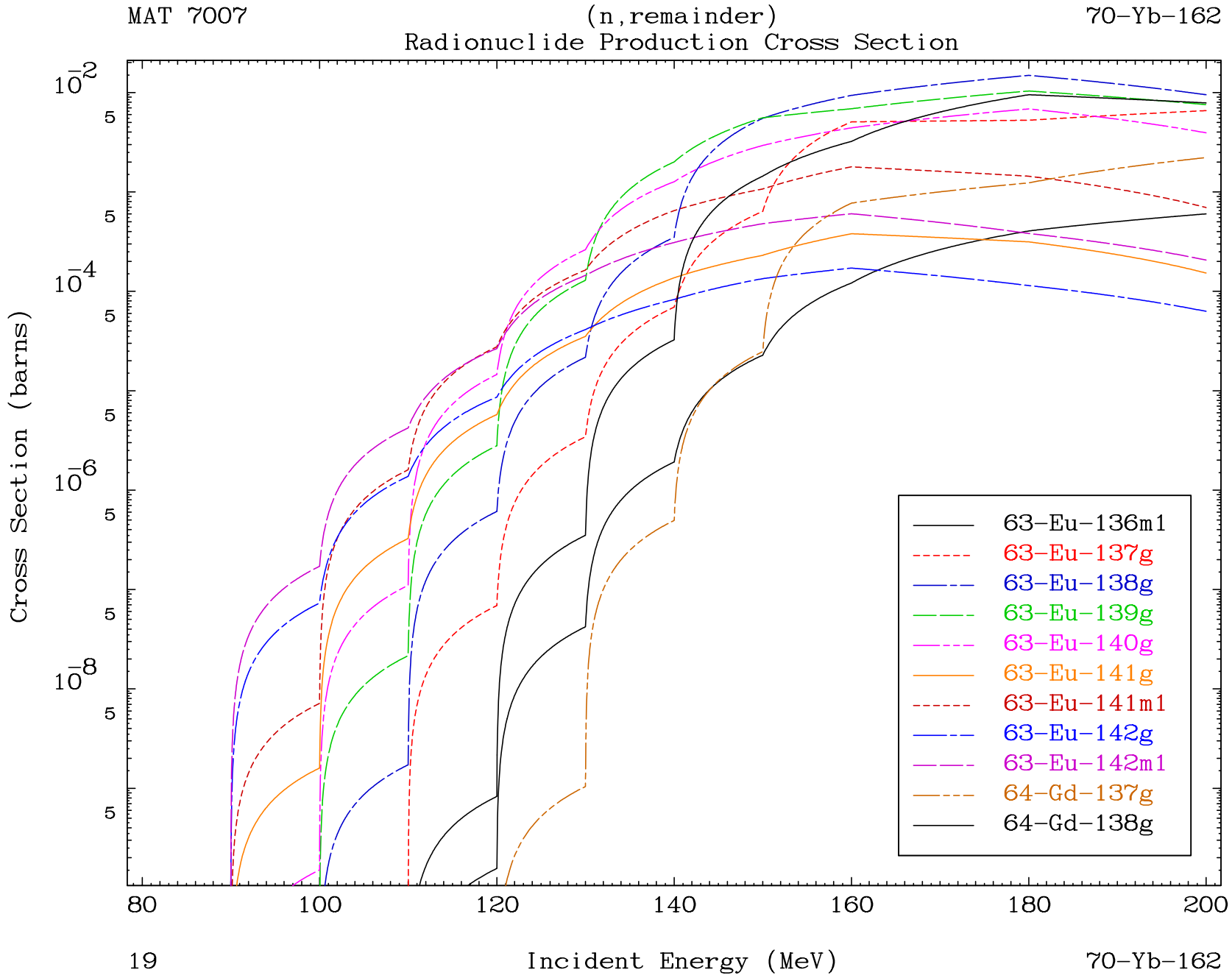

MAT 7007
(n,α) Levels
70-Yb-162
294 Kelvin Cross Sections
Cross Section (barns)
(n,α)
Incident Energy (MeV)
14
70-Yb-162

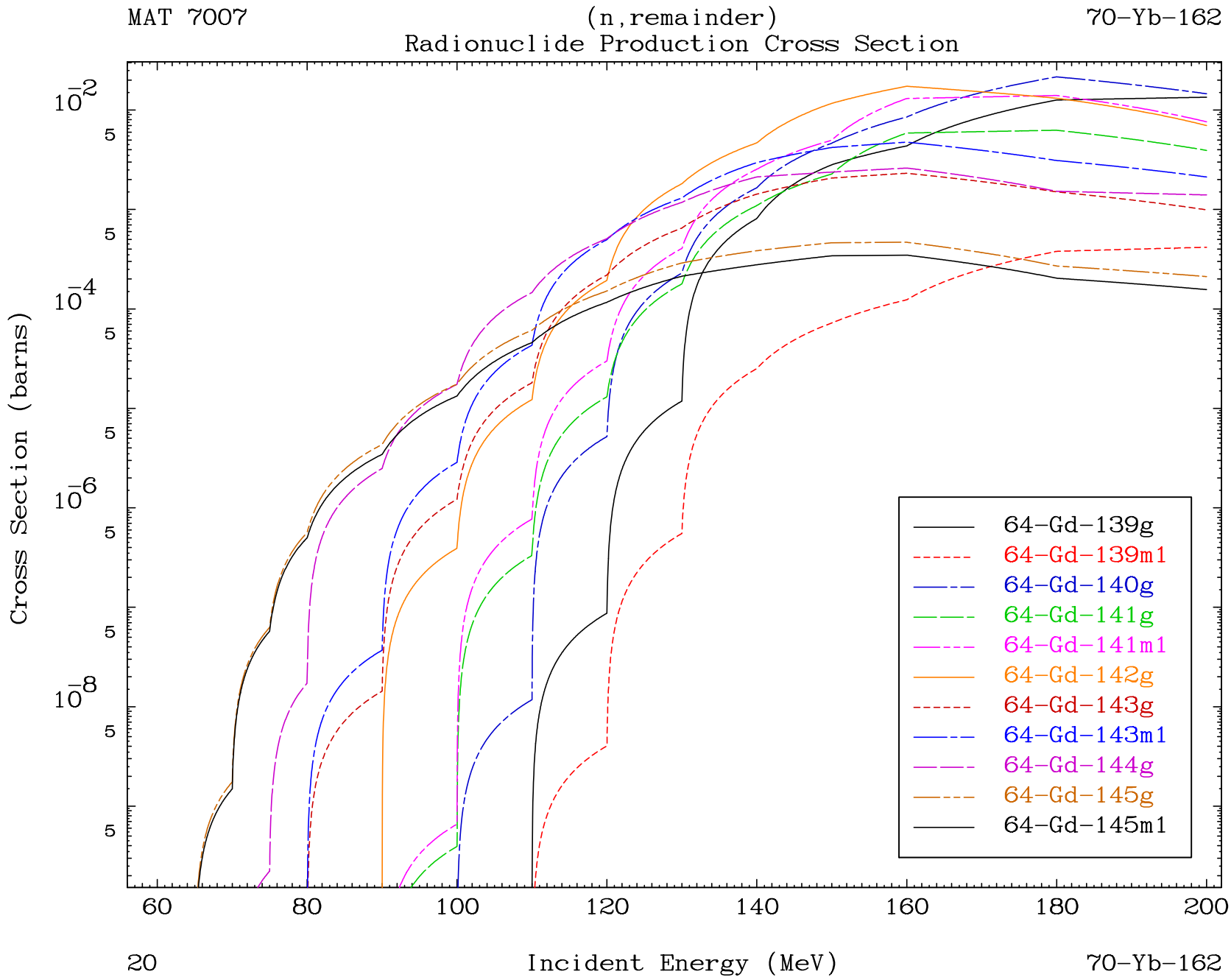

MAT 7007
Energy Release
Heating - Damage
70-Yb-162
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma disappearance (mt102-120)
Kerma capture (mt103)
Kerma capture (mt107)
(eV-barns)
Incident Energy (MeV)
15
70-Yb-162

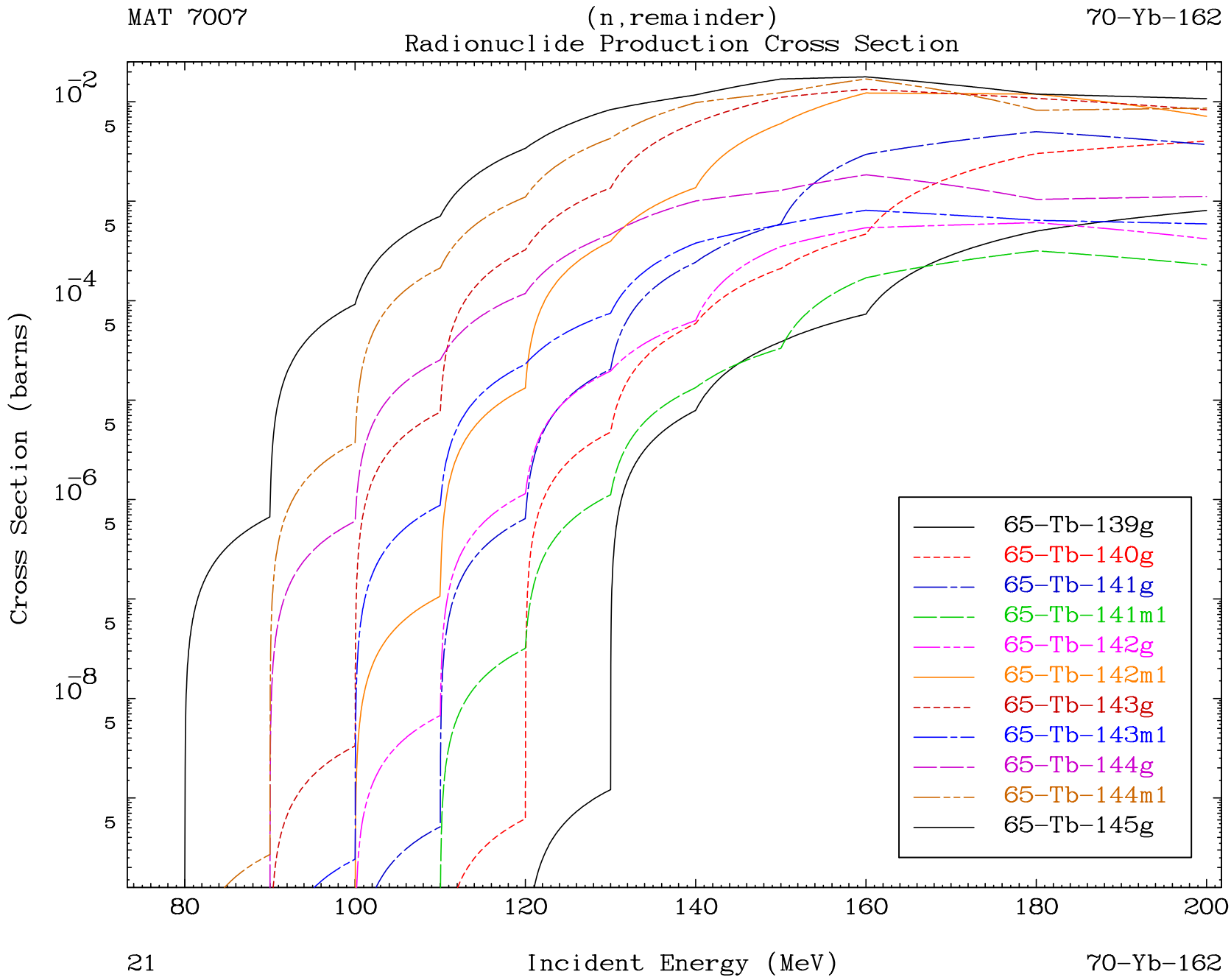

MAT 7007
Energy Release
Heating - Damage
70-Yb-162
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
(eV-barns)
Incident Energy (MeV)
16
70-Yb-162

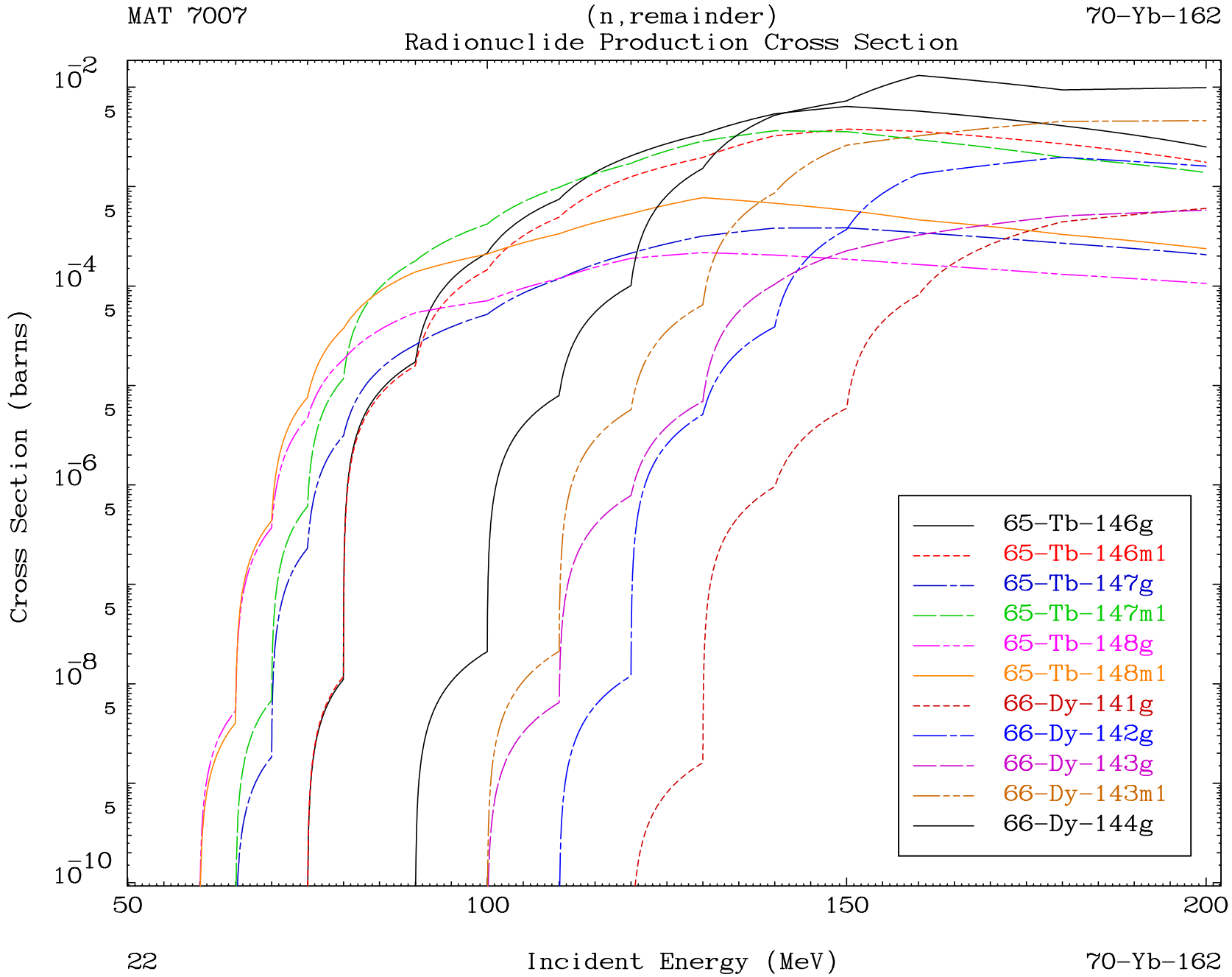

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
Neutron
1-H -1
1-H -2
1-H -3
2-He-3
2-He-4
60-Nd-133g
60-Nd-133m1
60-Nd-134g
61-Pm-134g
61-Pm-134m1
Incident Energy (MeV)
17
70-Yb-162

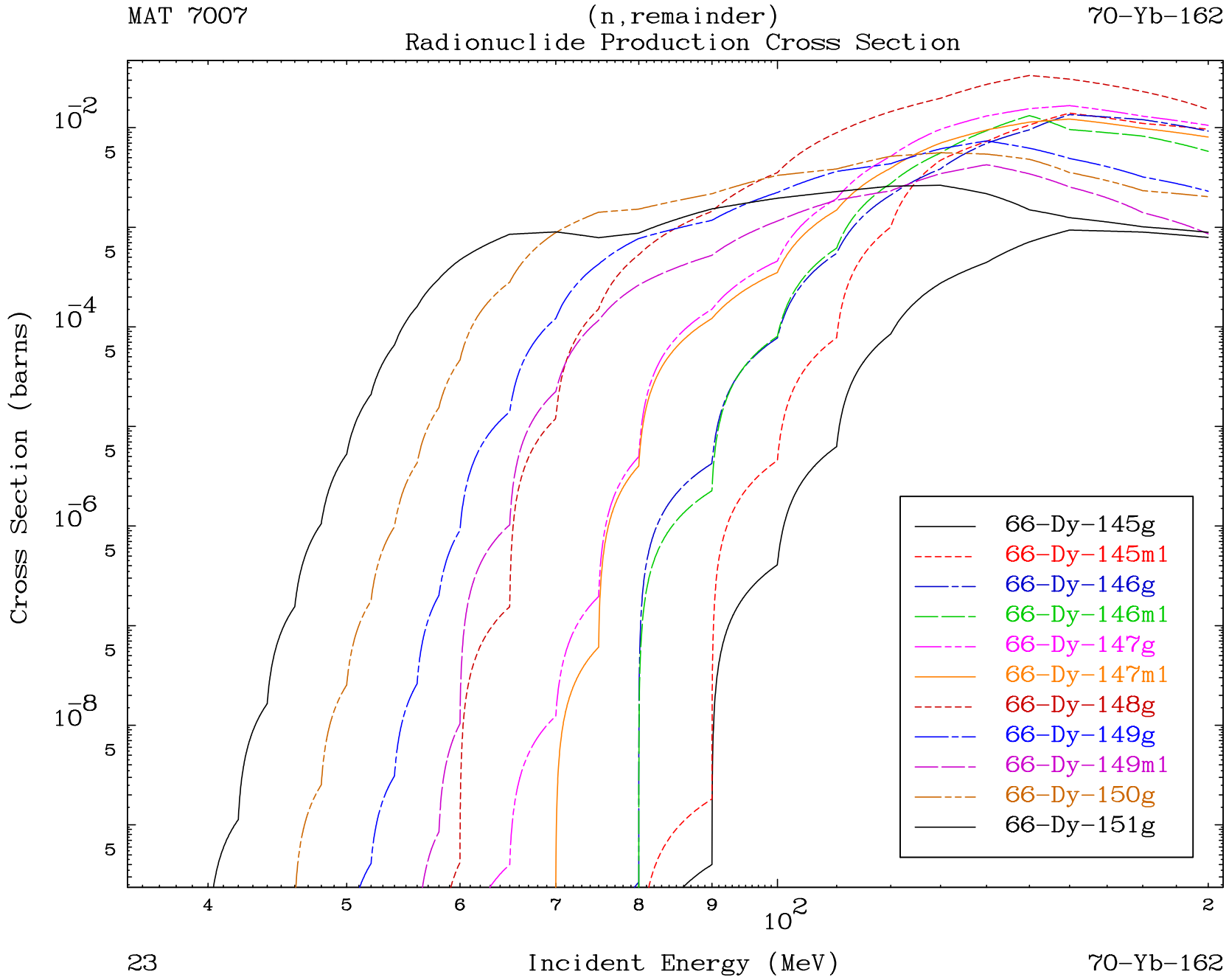

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
61-Pm-135g
61-Pm-135m1
61-Pm-136g
61-Pm-136m1
62-Sm-135g
62-Sm-136g
62-Sm-137g
62-Sm-138g
62-Sm-139g
62-Sm-139m1
63-Eu-136g
Cross Section (barns)
10-2
10-4
10-6
10-8
5
80
100
120
140
160
180
200
18
Incident Energy (MeV)
70-Yb-162


MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
5
80
100
120
140
160
180
200
19
Incident Energy (MeV)
70-Yb-162
63-Eu-136m1
63-Eu-137g
63-Eu-138g
63-Eu-139g
63-Eu-140g
63-Eu-141g
63-Eu-141m1
63-Eu-142g
63-Eu-142m1
64-Gd-137g
64-Gd-138g

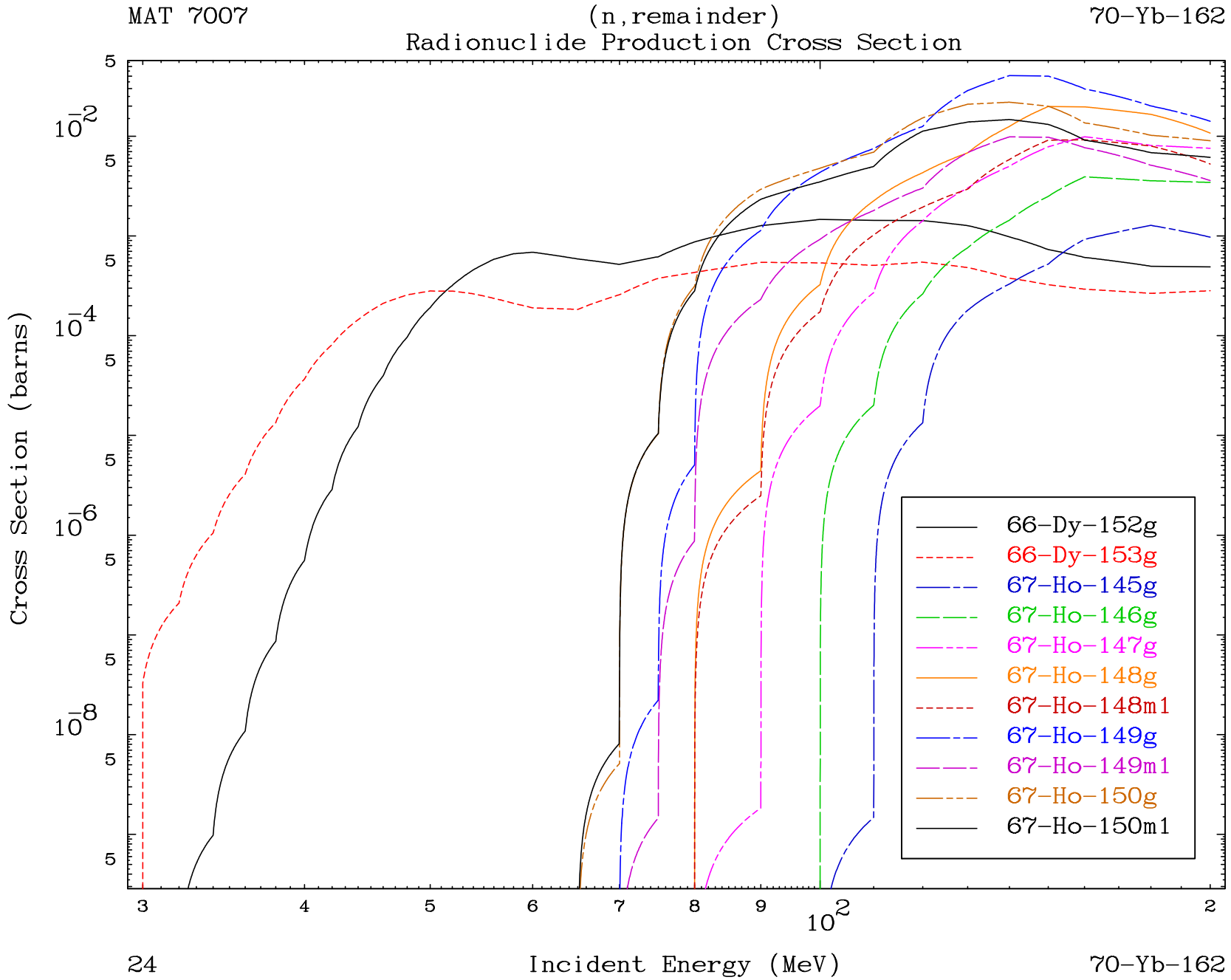

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
10-2
5
10-4
5
10-6
5
10-8
5
5
60
80
100
120
140
160
180
200
20
Incident Energy (MeV)
70-Yb-162
64-Gd-139g
64-Gd-139m1
64-Gd-140g
64-Gd-141g
64-Gd-141m1
64-Gd-142g
64-Gd-143g
64-Gd-143m1
64-Gd-144g
64-Gd-145g
64-Gd-145m1

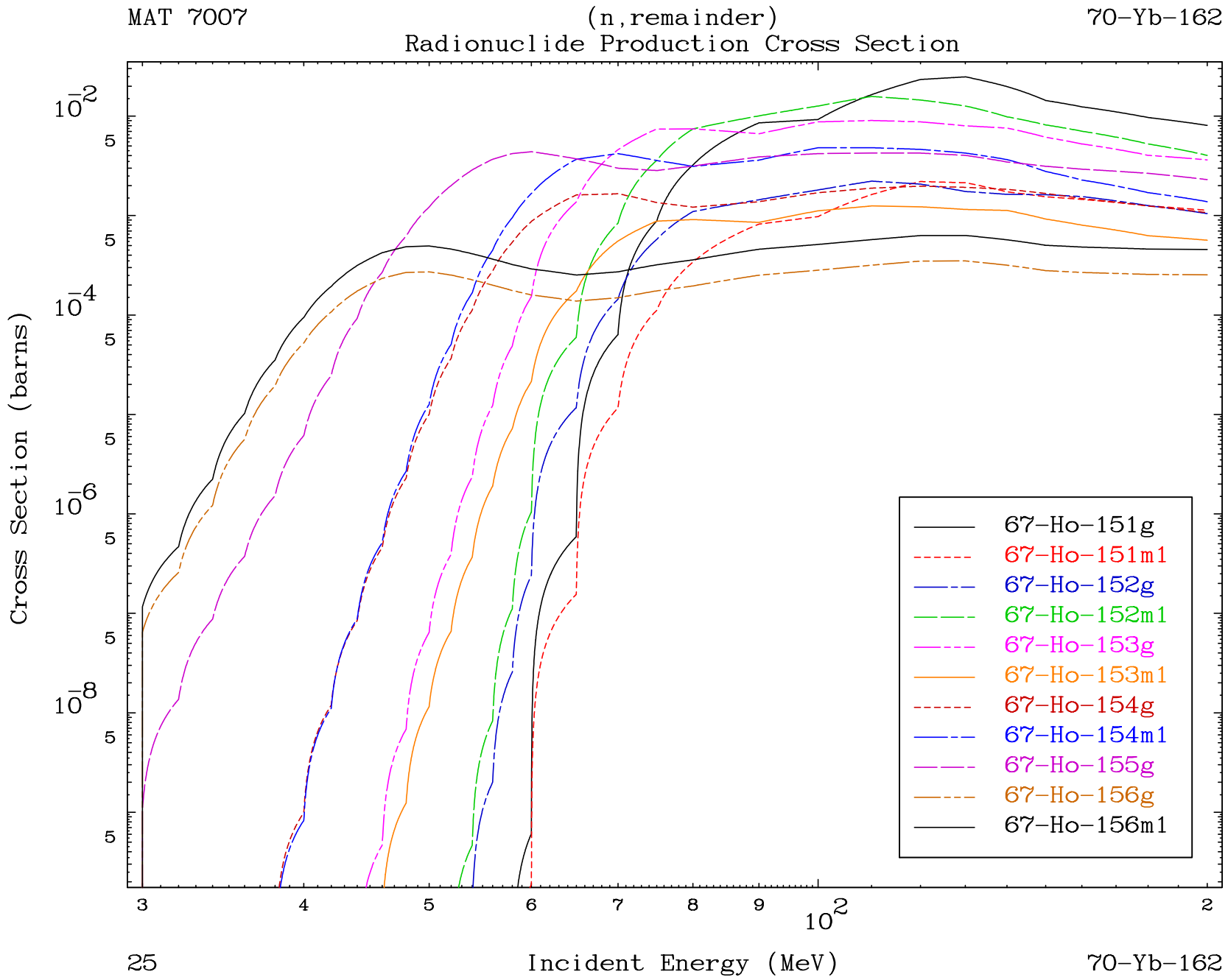

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
10-2
5
10-4
5
10-6
5
10-8
5
5
80
100
120
140
160
180
200
Incident Energy (MeV)
21
70-Yb-162
65-Tb-139g
65-Tb-140g
65-Tb-141g
65-Tb-141m1
65-Tb-142g
65-Tb-142m1
65-Tb-143g
65-Tb-143m1
65-Tb-144g
65-Tb-144m1
65-Tb-145g

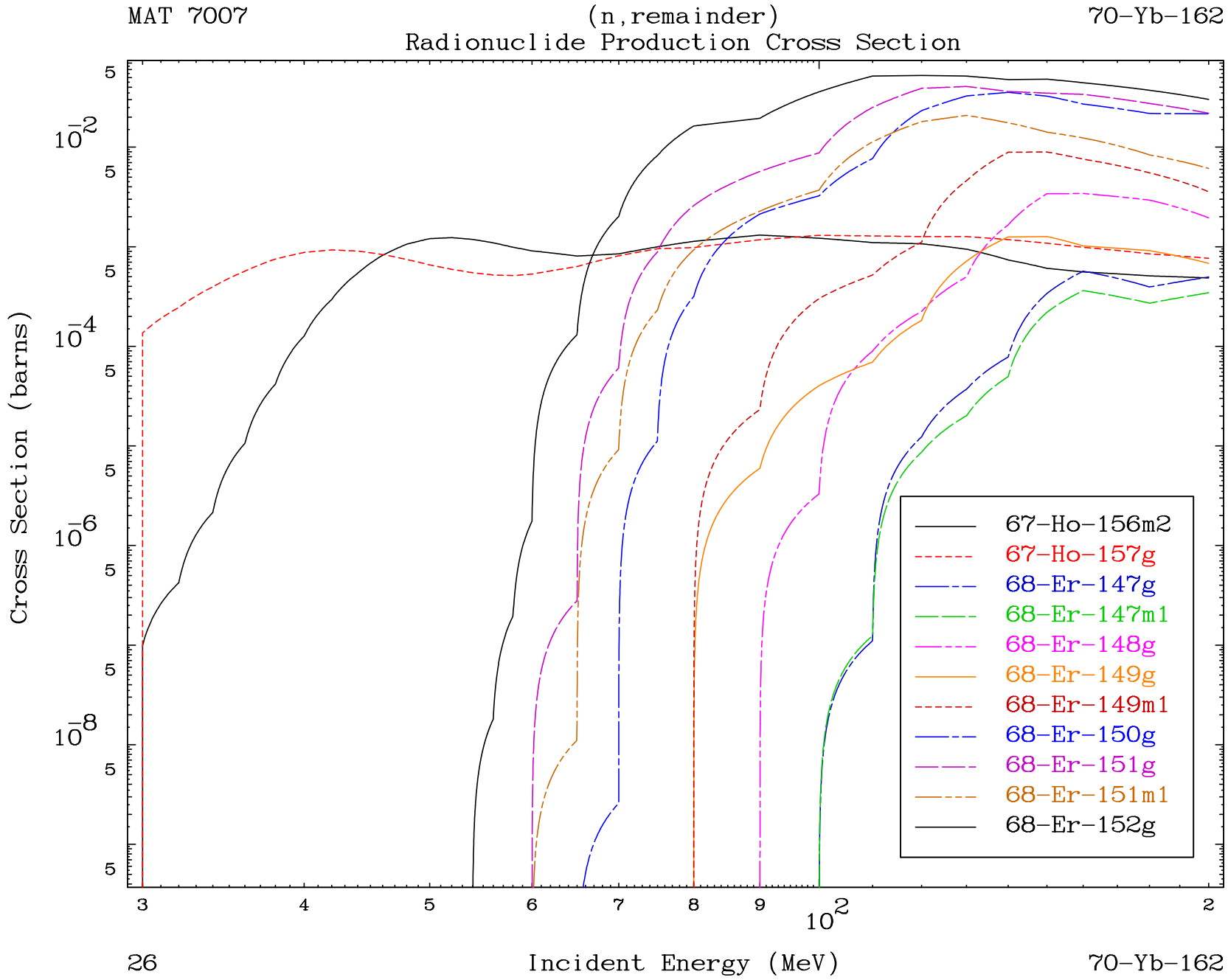

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
10-10
50
100
150
200
22
Incident Energy (MeV)
70-Yb-162
65-Tb-146g
65-Tb-146m1
65-Tb-147g
65-Tb-147m1
65-Tb-148g
65-Tb-148m1
66-Dy-141g
66-Dy-142g
66-Dy-143g
66-Dy-143m1
66-Dy-144g

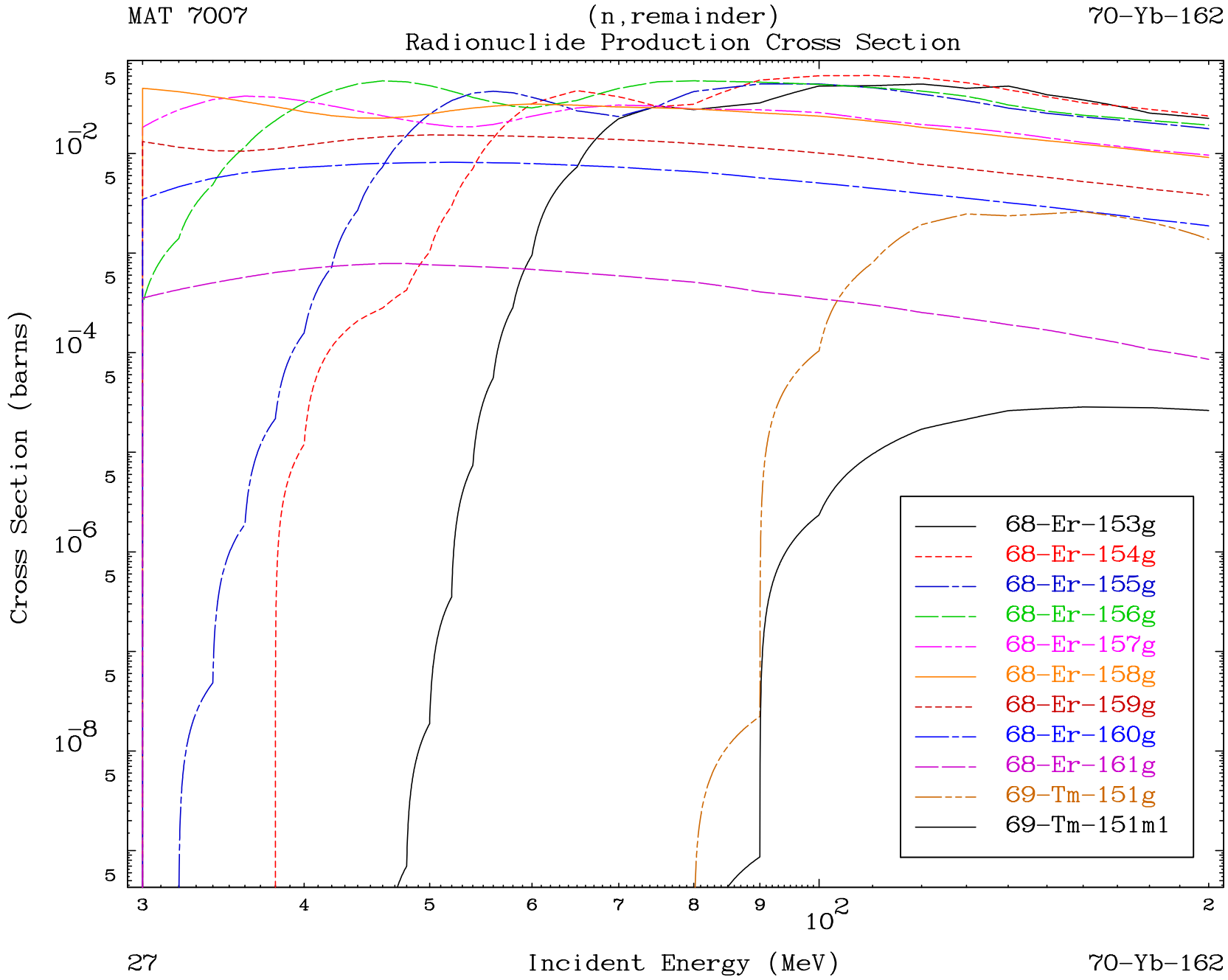

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
5
4
6
7
8
9
10 2
2
Incident Energy (MeV)
66-Dy-145g
66-Dy-145m1
66-Dy-146g
66-Dy-146m1
66-Dy-147g
66-Dy-147m1
66-Dy-148g
66-Dy-149g
66-Dy-149m1
66-Dy-150g
66-Dy-151g

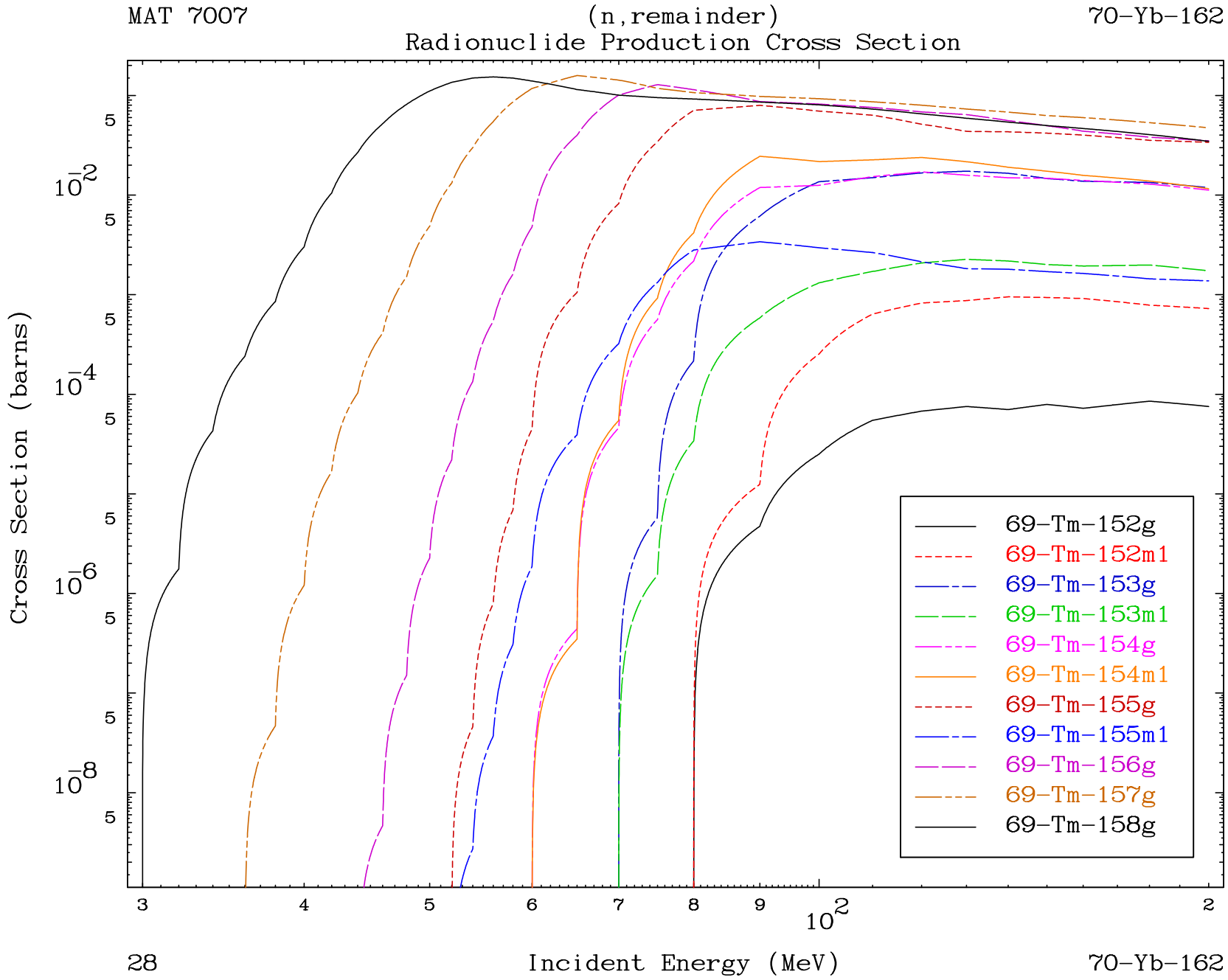
70-Yb-162

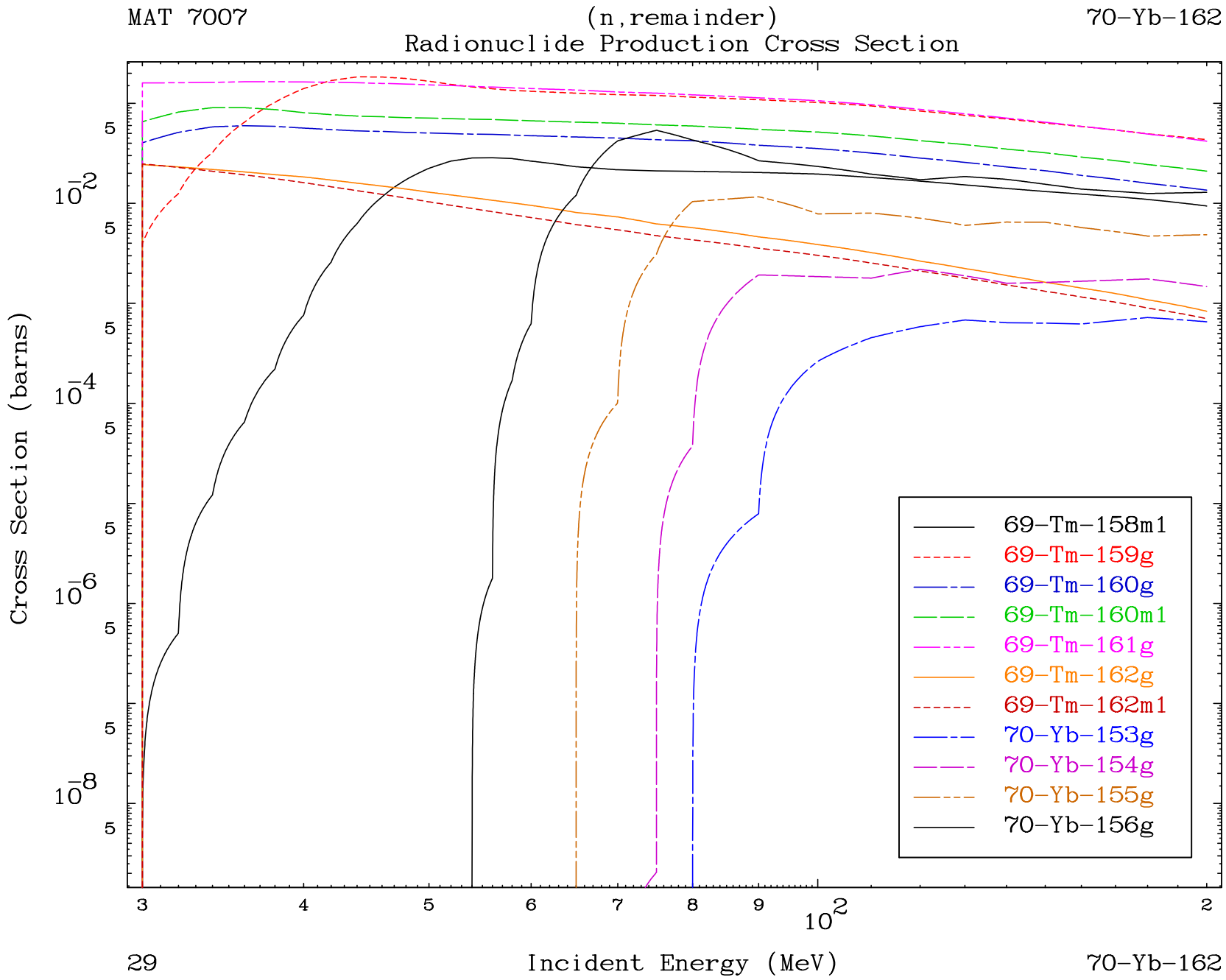

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
66-Dy-152g
66-Dy-153g
67-Ho-145g
67-Ho-146g
67-Ho-147g
67-Ho-148g
67-Ho-148m1
67-Ho-149g
67-Ho-149m1
67-Ho-150g
67-Ho-150m1

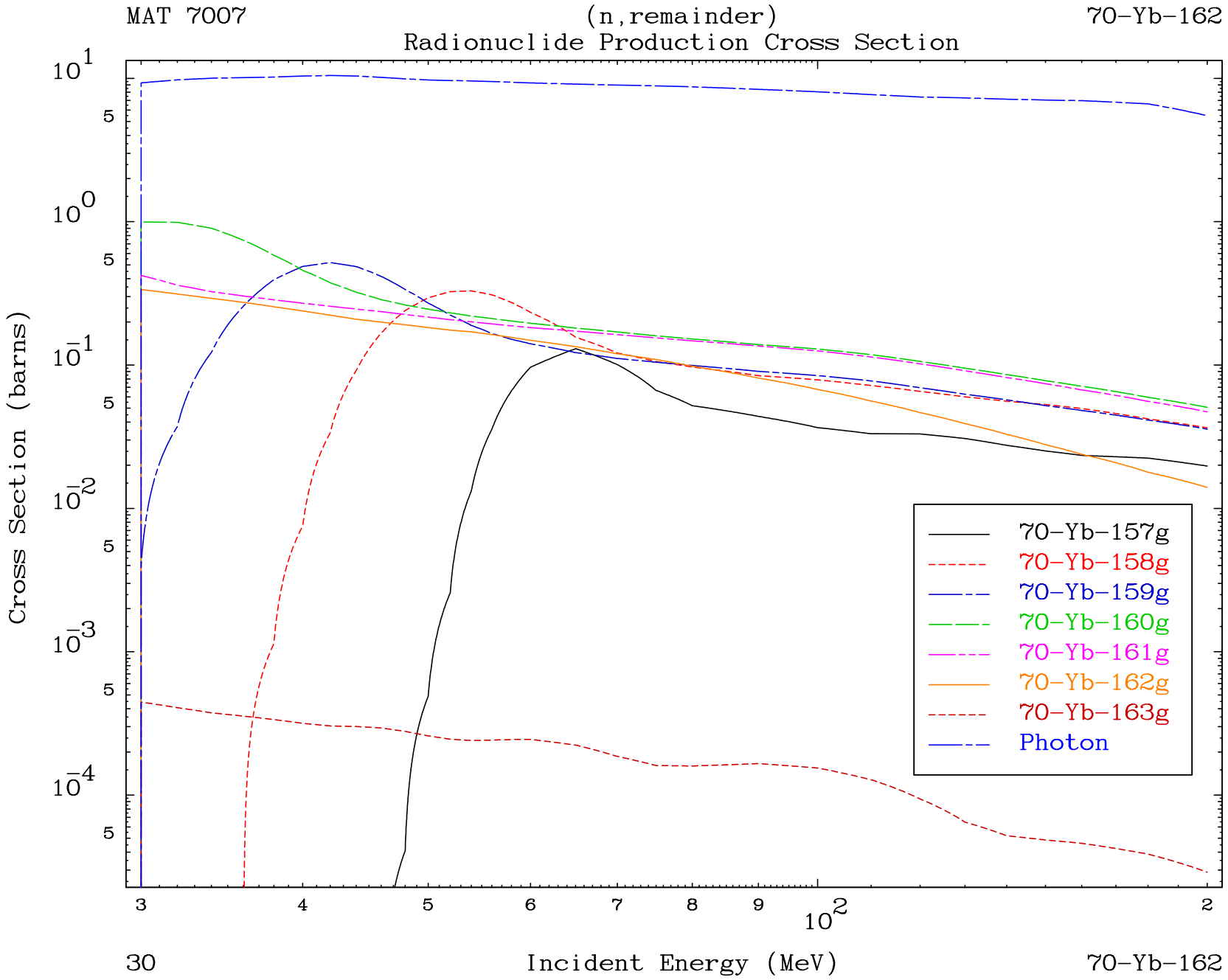

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
10-2
10-4
10-6
10-8
3
4
5
6
7
8
9
10 2
2
Incident Energy (MeV)
25
70-Yb-162
67-Ho-151g
67-Ho-151m1
67-Ho-152g
67-Ho-152m1
67-Ho-153g
67-Ho-153m1
67-Ho-154g
67-Ho-154m1
67-Ho-155g
67-Ho-156g
67-Ho-156m1

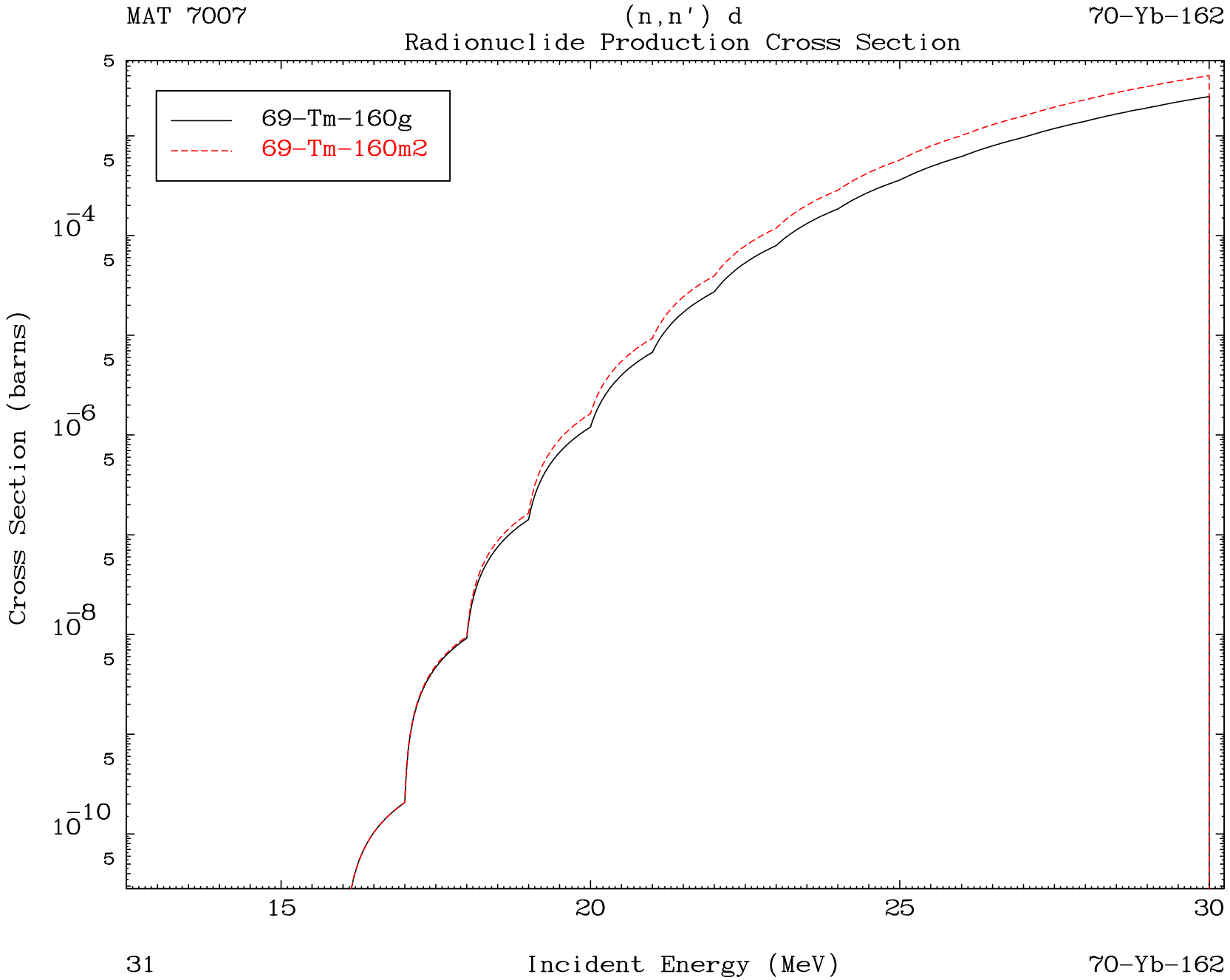

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
26
70-Yb-162
67-Ho-156m2
67-Ho-157g
68-Er-147g
68-Er-147m1
68-Er-148g
68-Er-149g
68-Er-149m1
68-Er-150g
68-Er-151g
68-Er-151m1
68-Er-152g

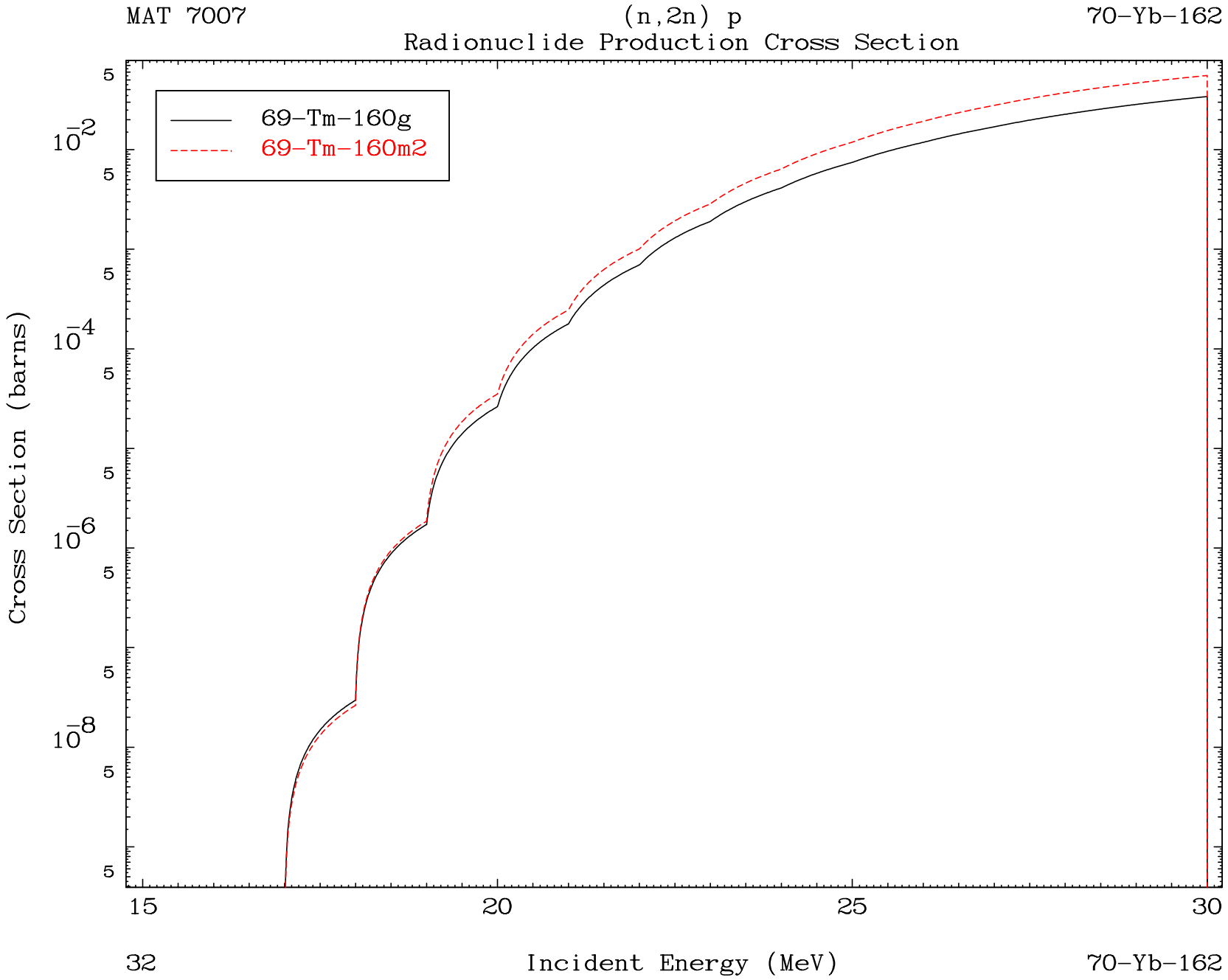

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
68-Er-153g
68-Er-154g
68-Er-155g
68-Er-156g
68-Er-157g
68-Er-158g
68-Er-159g
68-Er-160g
68-Er-161g
69-Tm-151g
69-Tm-151m1
27
70-Yb-162

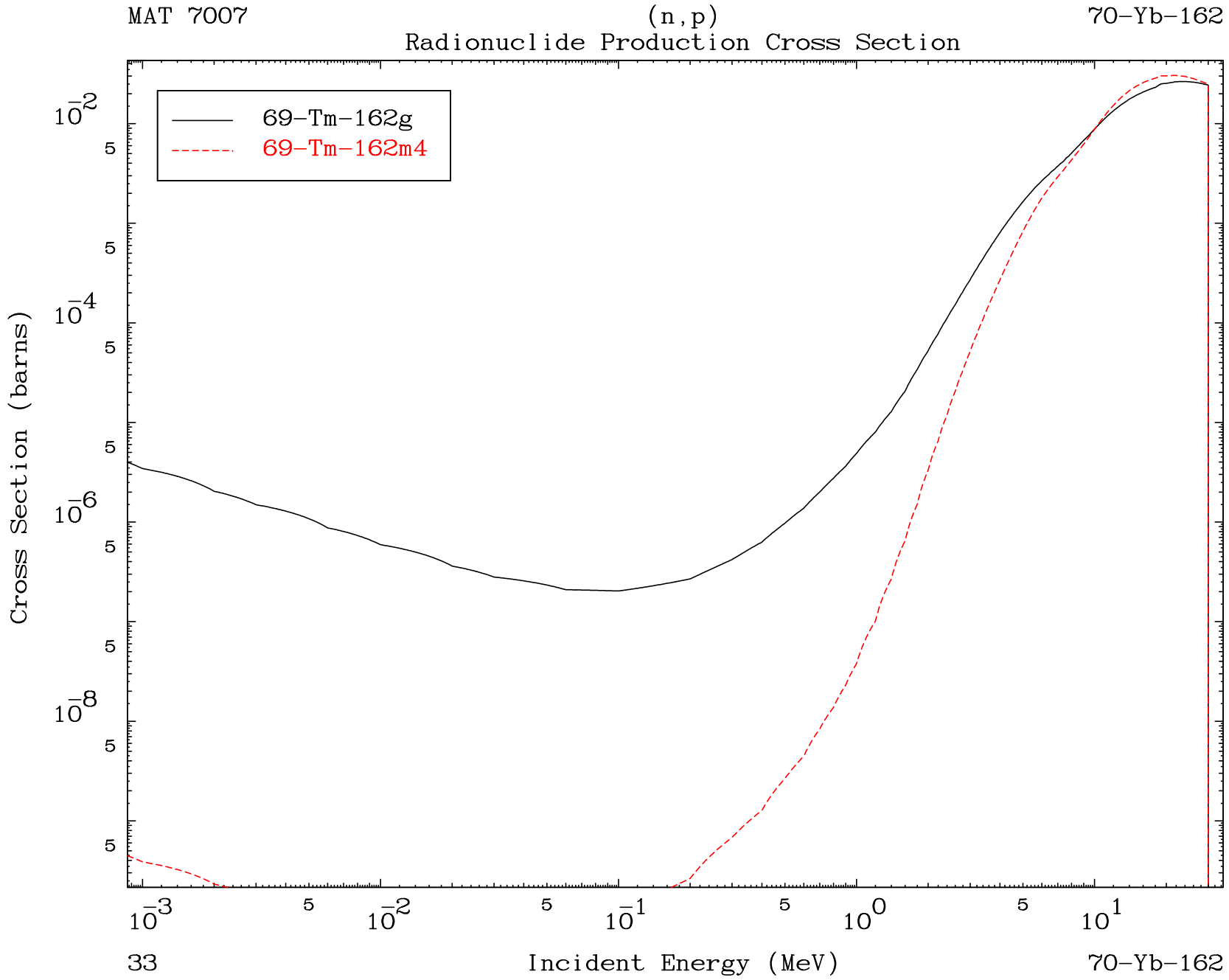

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
28
70-Yb-162
69-Tm-152g
69-Tm-152m1
69-Tm-153g
69-Tm-153m1
69-Tm-154g
69-Tm-154m1
69-Tm-155g
69-Tm-155m1
69-Tm-156g
69-Tm-157g
69-Tm-158g

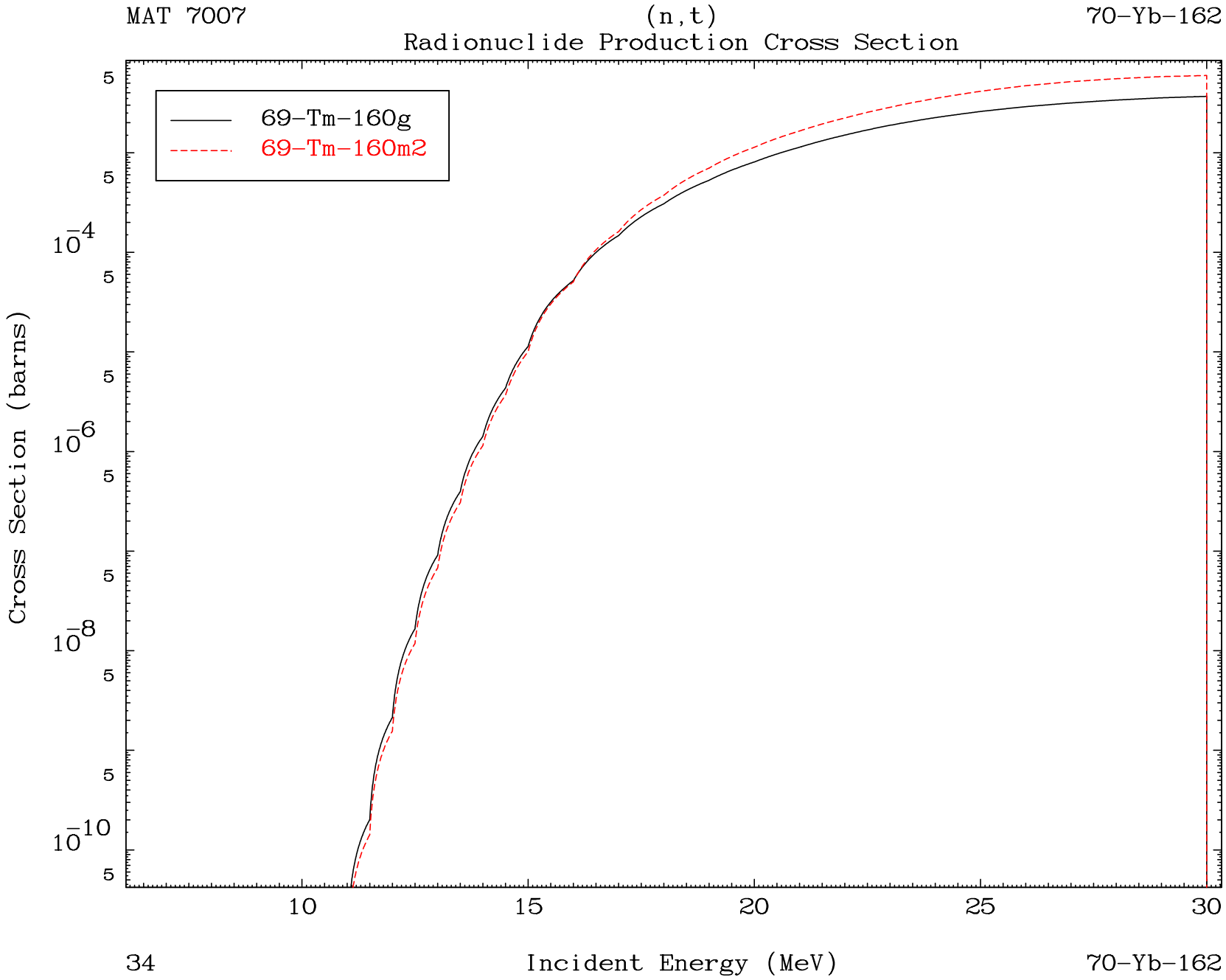

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
29
70-Yb-162
69-Tm-158m1
69-Tm-159g
69-Tm-160g
69-Tm-160m1
69-Tm-161g
69-Tm-162g
69-Tm-162m1
70-Yb-153g
70-Yb-154g
70-Yb-155g
70-Yb-156g

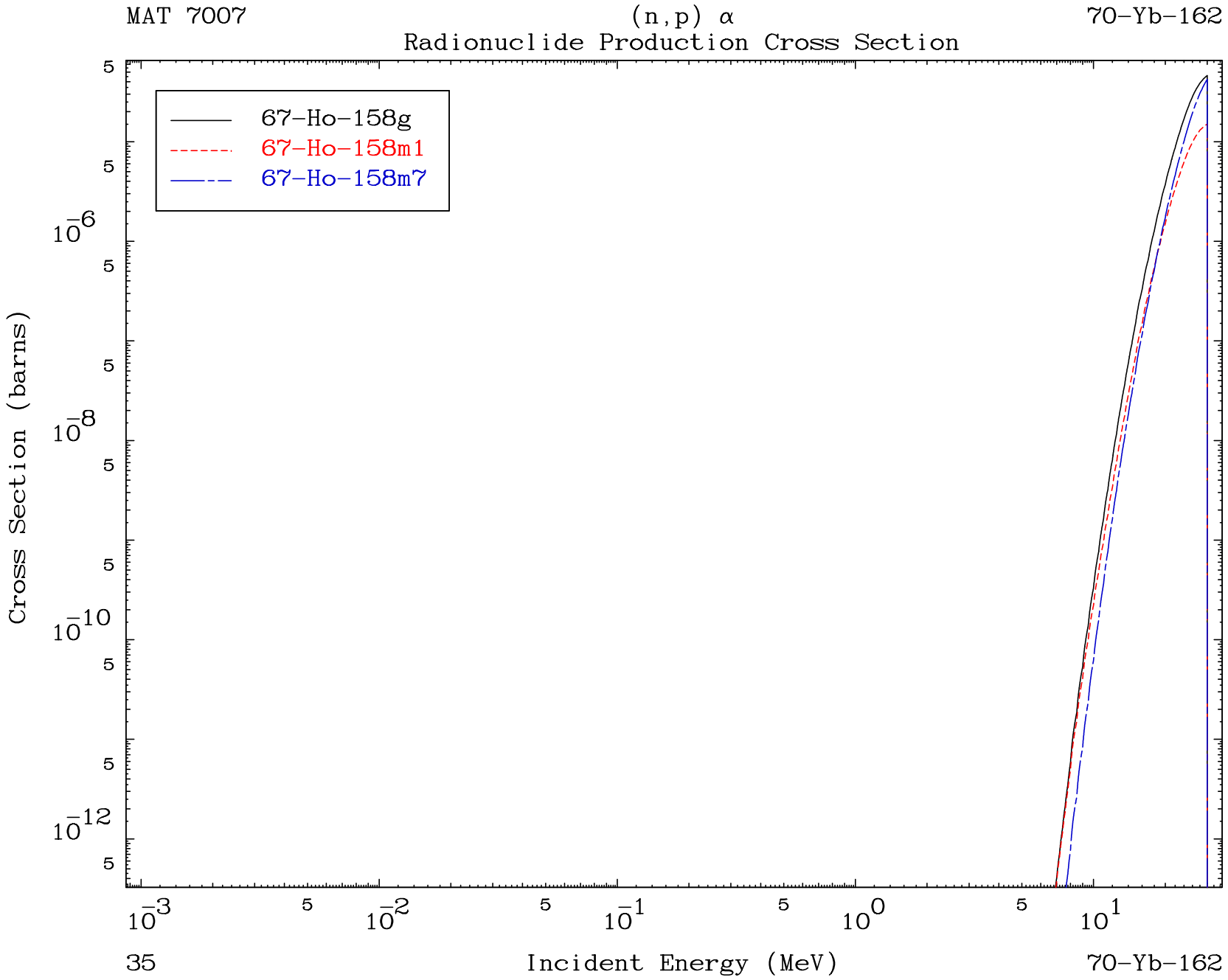

MAT 7007
(n,remainder)
70-Yb-162
Radionuclide Production Cross Section
Cross Section (barns)
Incident Energy (MeV)
30
70-Yb-162
70-Yb-157g
70-Yb-158g
70-Yb-159g
70-Yb-160g
70-Yb-161g
70-Yb-162g
70-Yb-163g
Photon


MAT 7007
(n,n') d
70-Yb-162
Radionuclide Production Cross Section
69-Tm-160g
69-Tm-160m2
Cross Section (barns)
10-4
10-6
10-8
10-10
15
20
25
30
31
Incident Energy (MeV)
70-Yb-162


MAT 7007
(n,2n) p
70-Yb-162
Radionuclide Production Cross Section
69-Tm-160g
69-Tm-160m2
Cross Section (barns)
10-2
10-4
10-6
10-8
15
20
25
30
32
Incident Energy (MeV)
70-Yb-162


MAT 7007
(n,p)
70-Yb-162
Radionuclide Production Cross Section
69-Tm-162g
69-Tm-162m4
Cross Section (barns)
Incident Energy (MeV)
33
70-Yb-162


MAT 7007
(n,t)
70-Yb-162
Radionuclide Production Cross Section
69-Tm-160g
69-Tm-160m2
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
10
15
20
25
30
34
Incident Energy (MeV)
70-Yb-162


MAT 7007
(n,p) α
70-Yb-162
Radionuclide Production Cross Section
67-Ho-158g
67-Ho-158m1
67-Ho-158m7
Cross Section (barns)
Incident Energy (MeV)
35
70-Yb-162