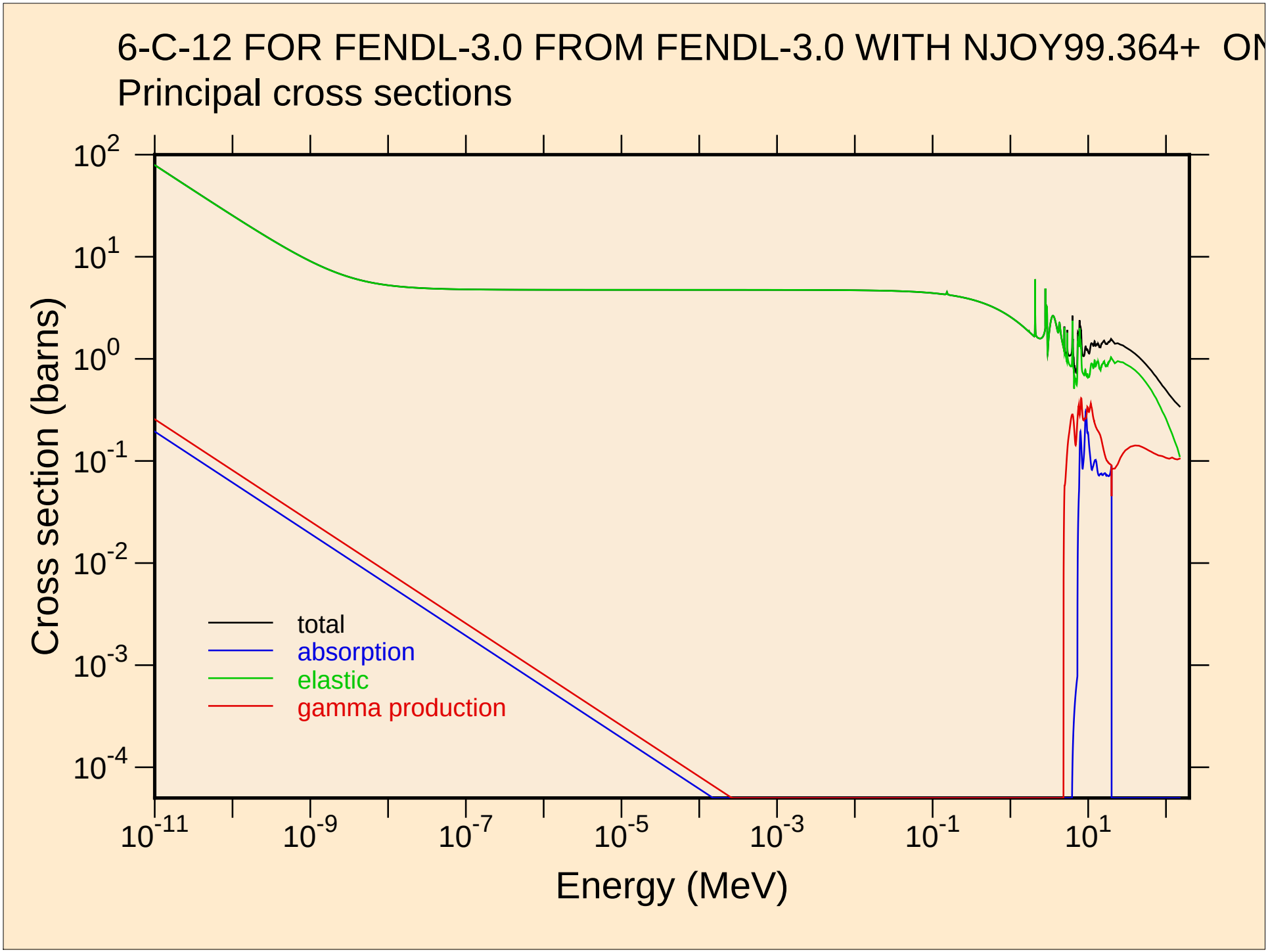
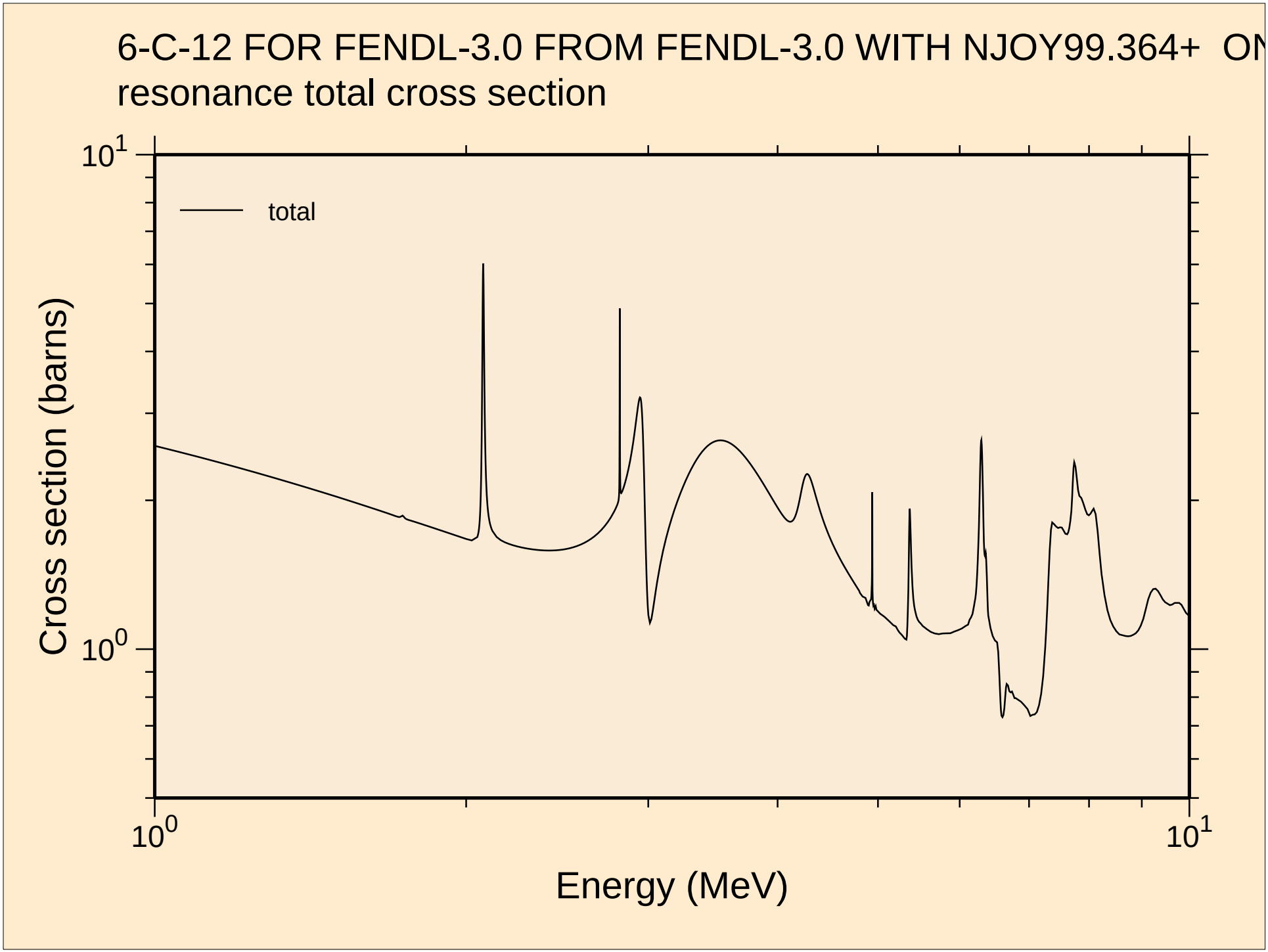
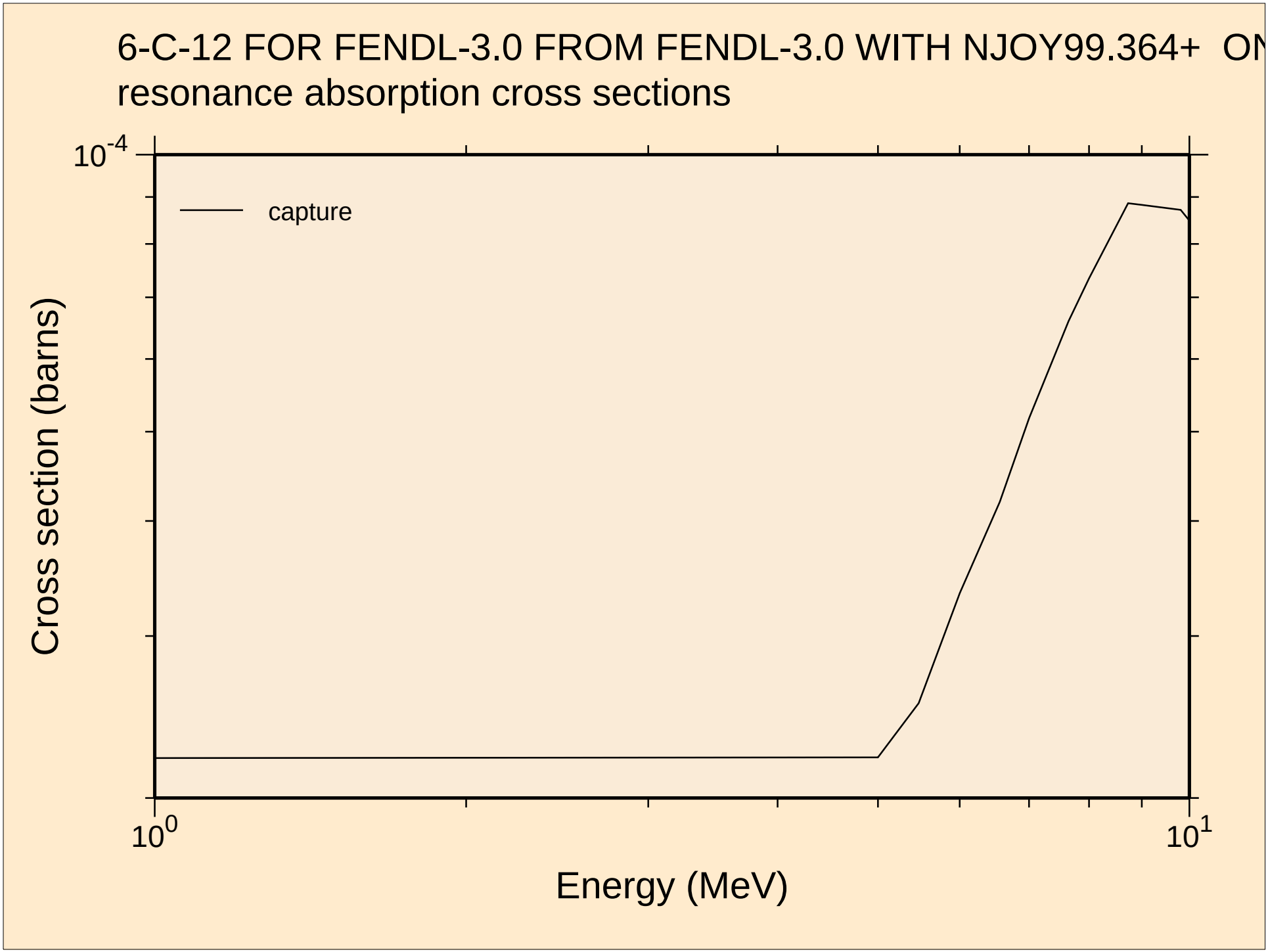
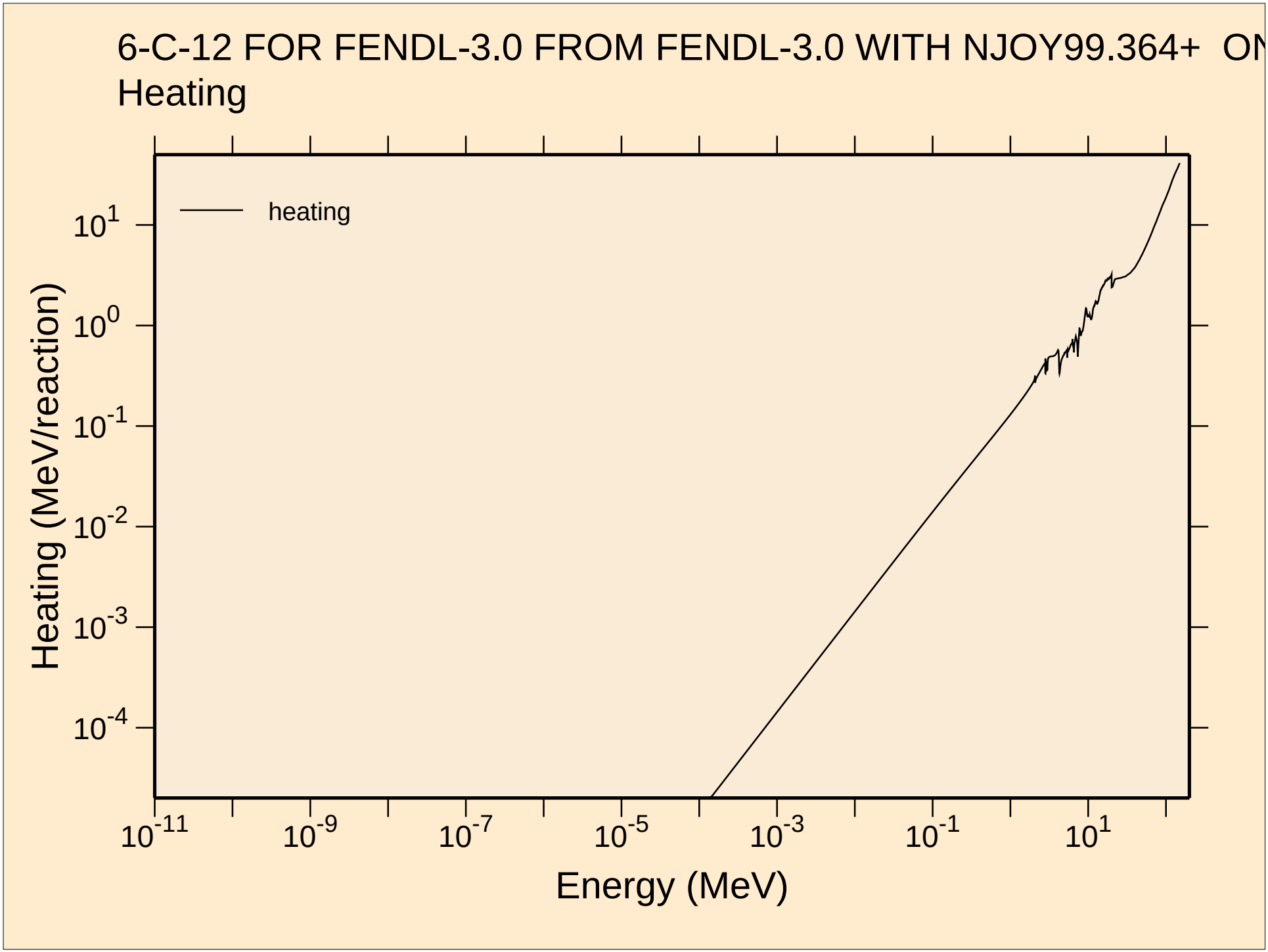
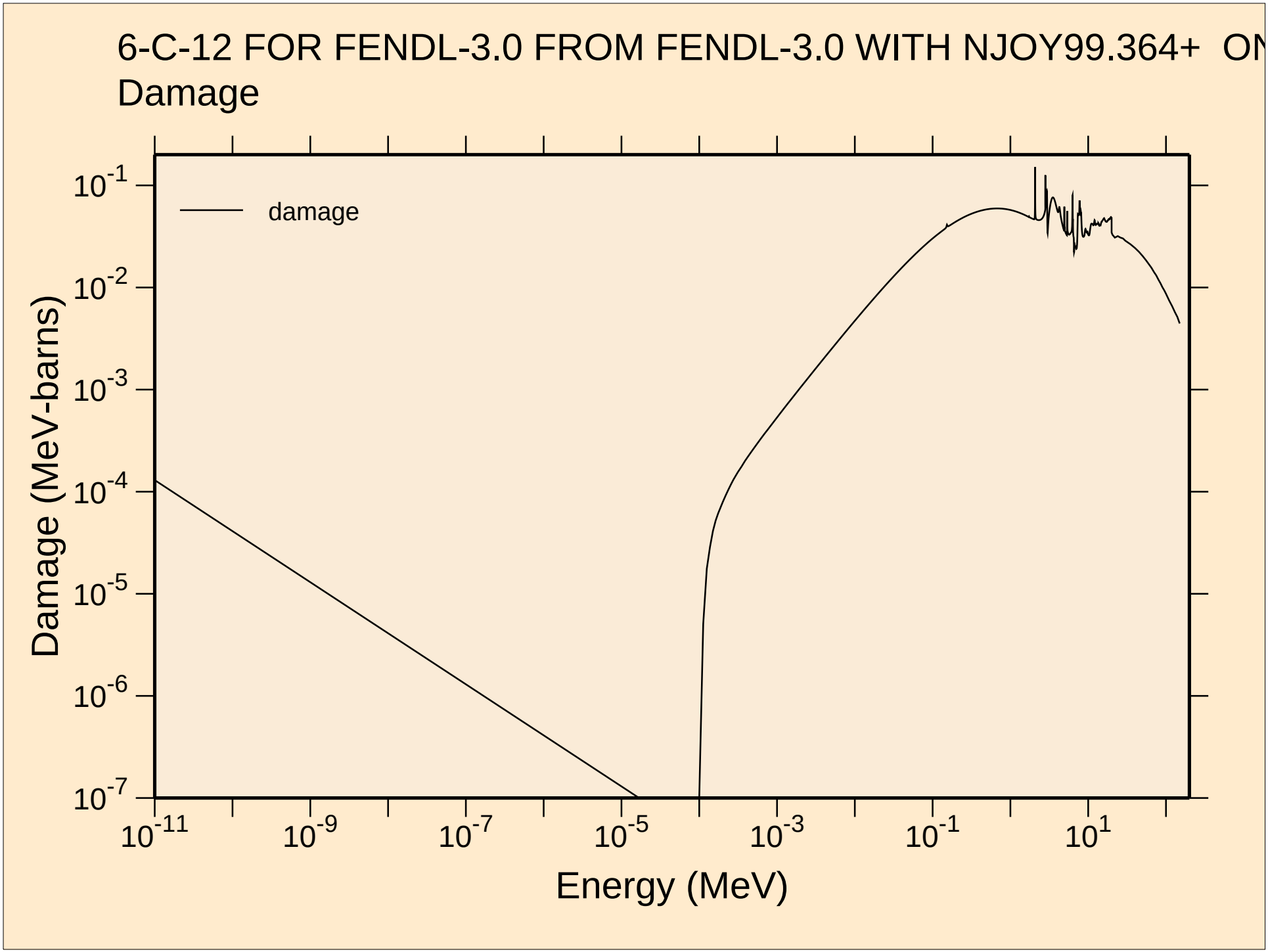
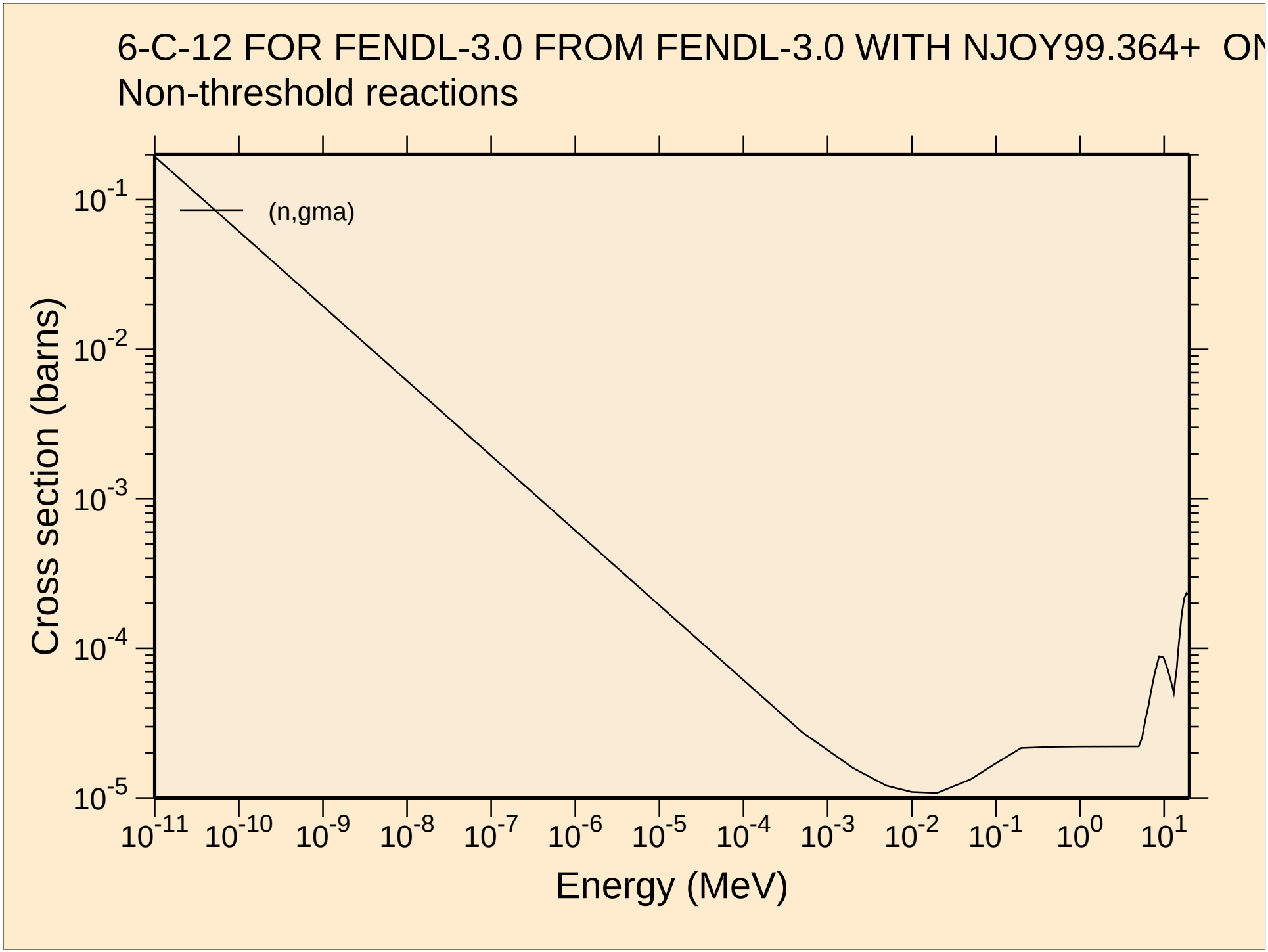

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production

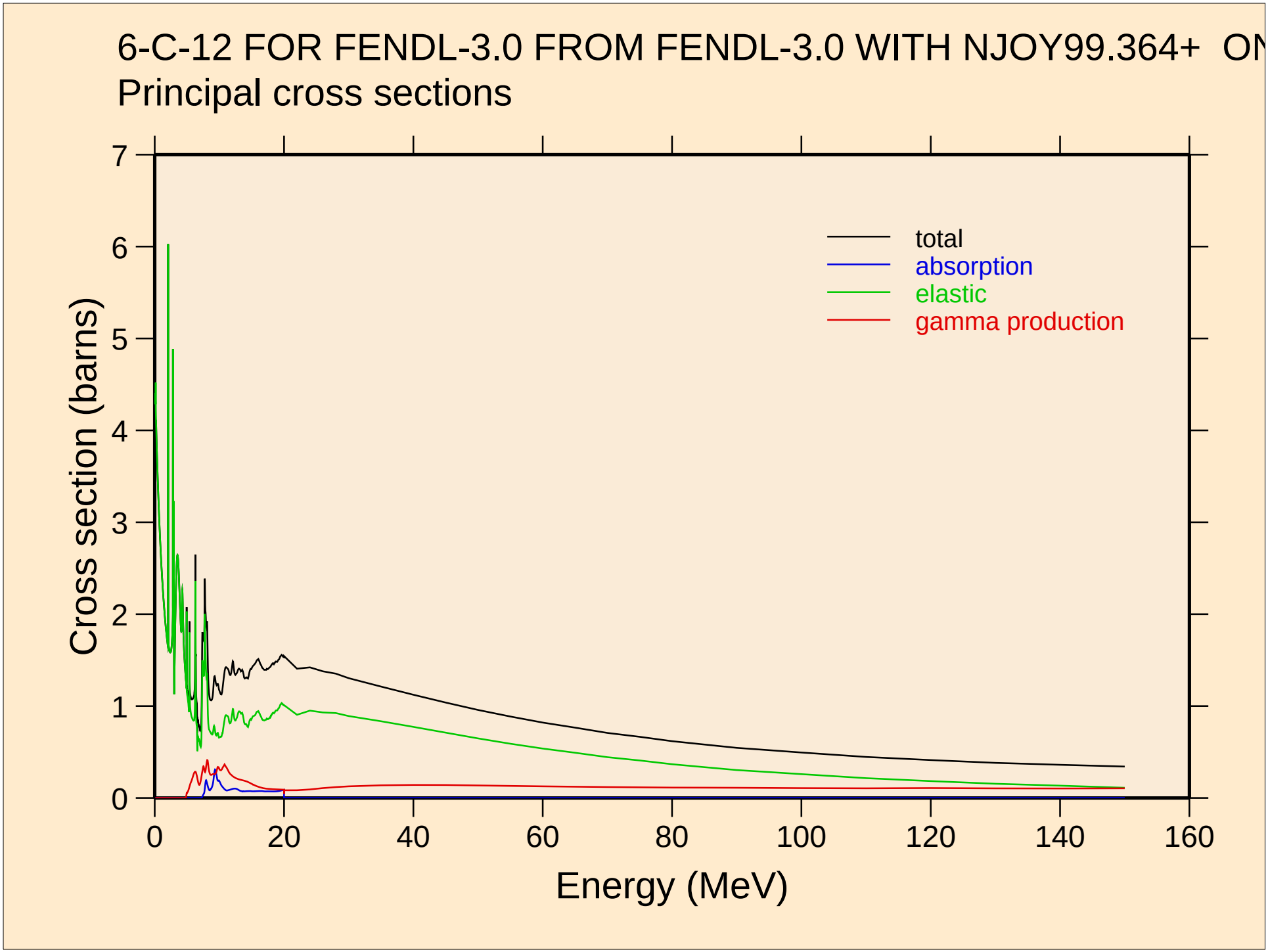

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
resonance total cross section
total
Cross section (barns)
10^1
10^0
10^0
10^1
Energy (MeV)

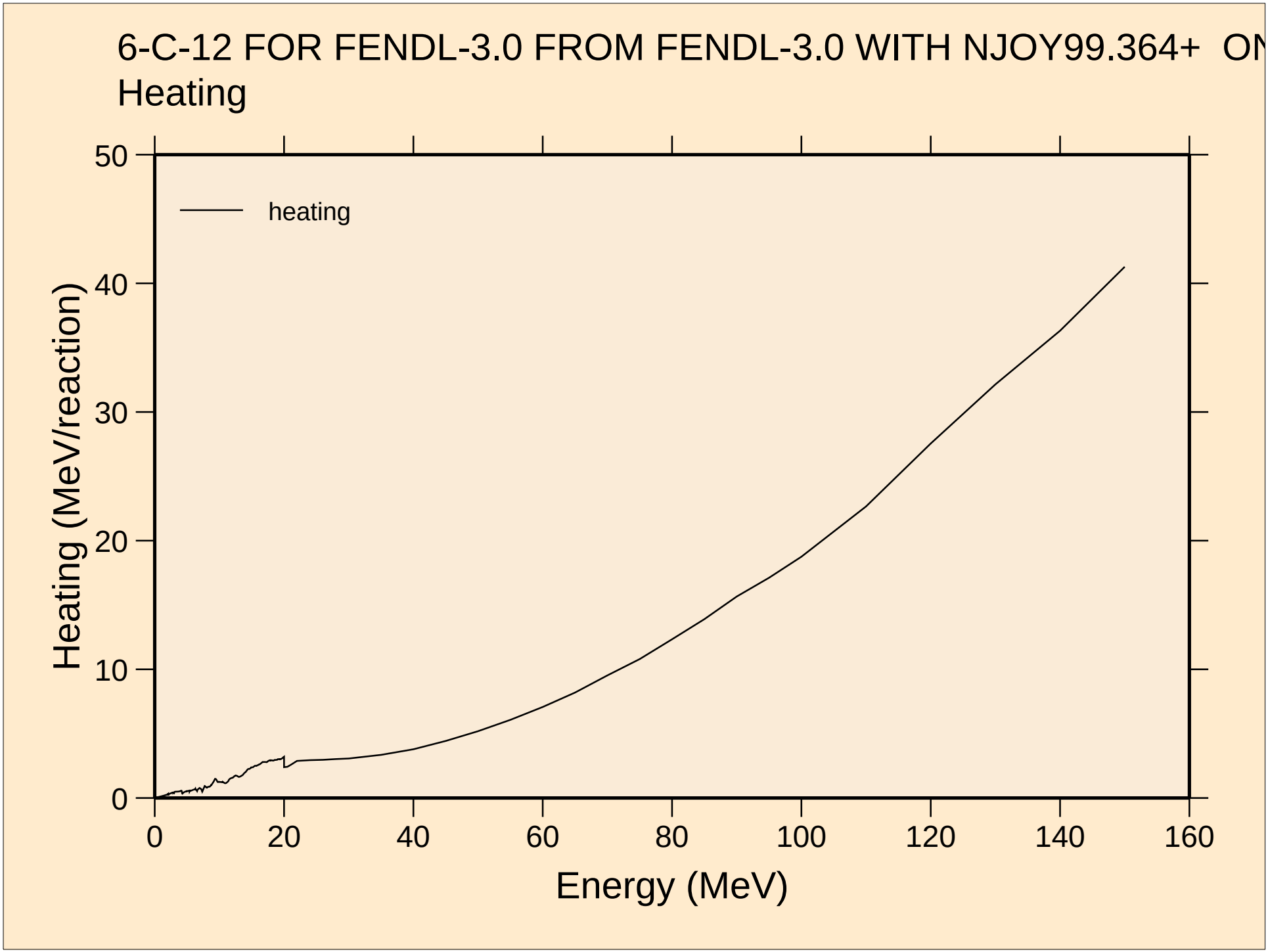

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
resonance absorption cross sections
capture
Cross section (barns)
10-4
100
101
Energy (MeV)

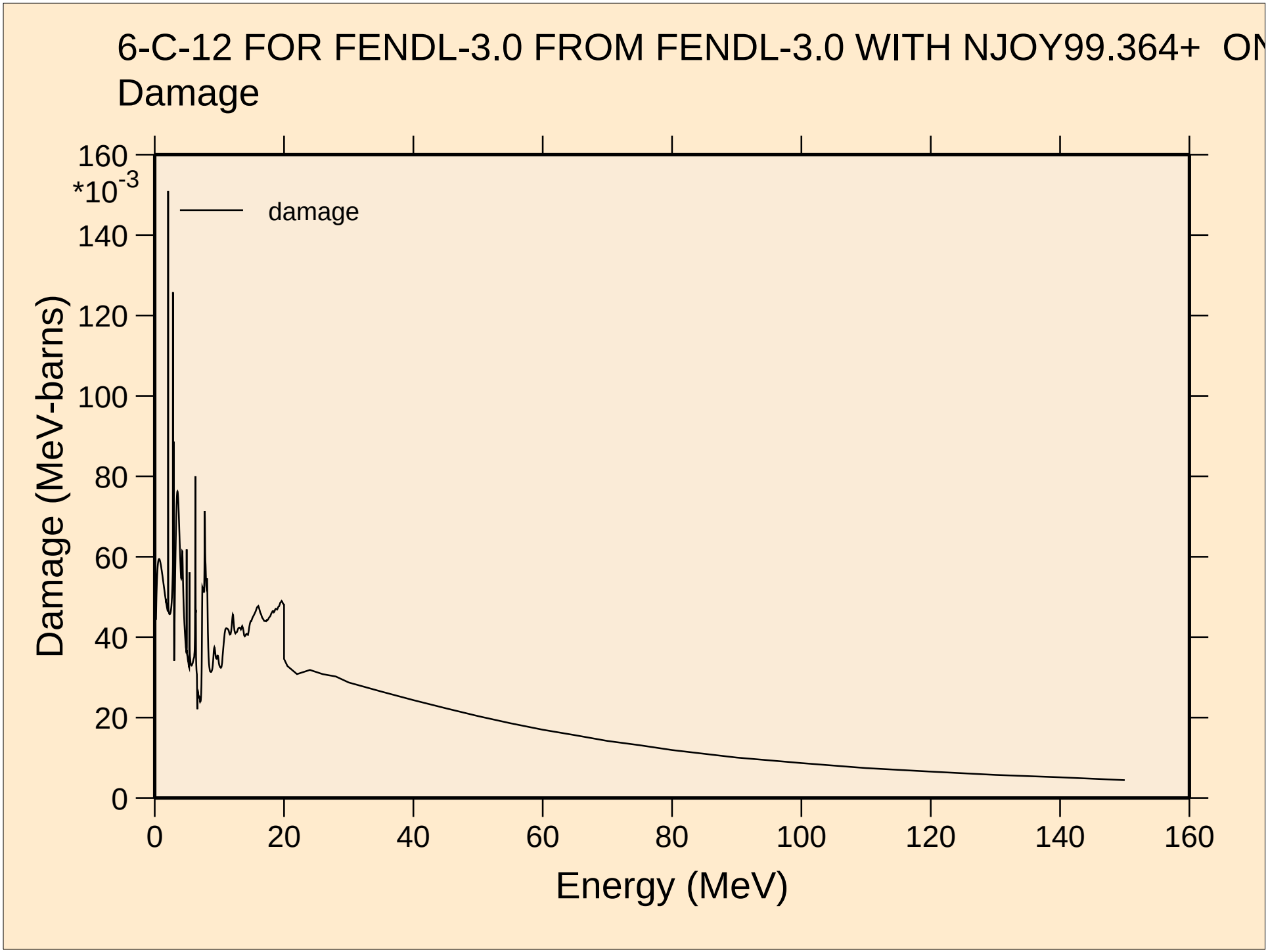

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Heating
heating
Heating (MeV/reaction)
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-2}$
$10^{-3}$
$10^{-4}$
$10^{-11}$
$10^{-9}$
$10^{-7}$
$10^{-5}$
$10^{-3}$
$10^{-1}$
$10^{1}$
Energy (MeV)

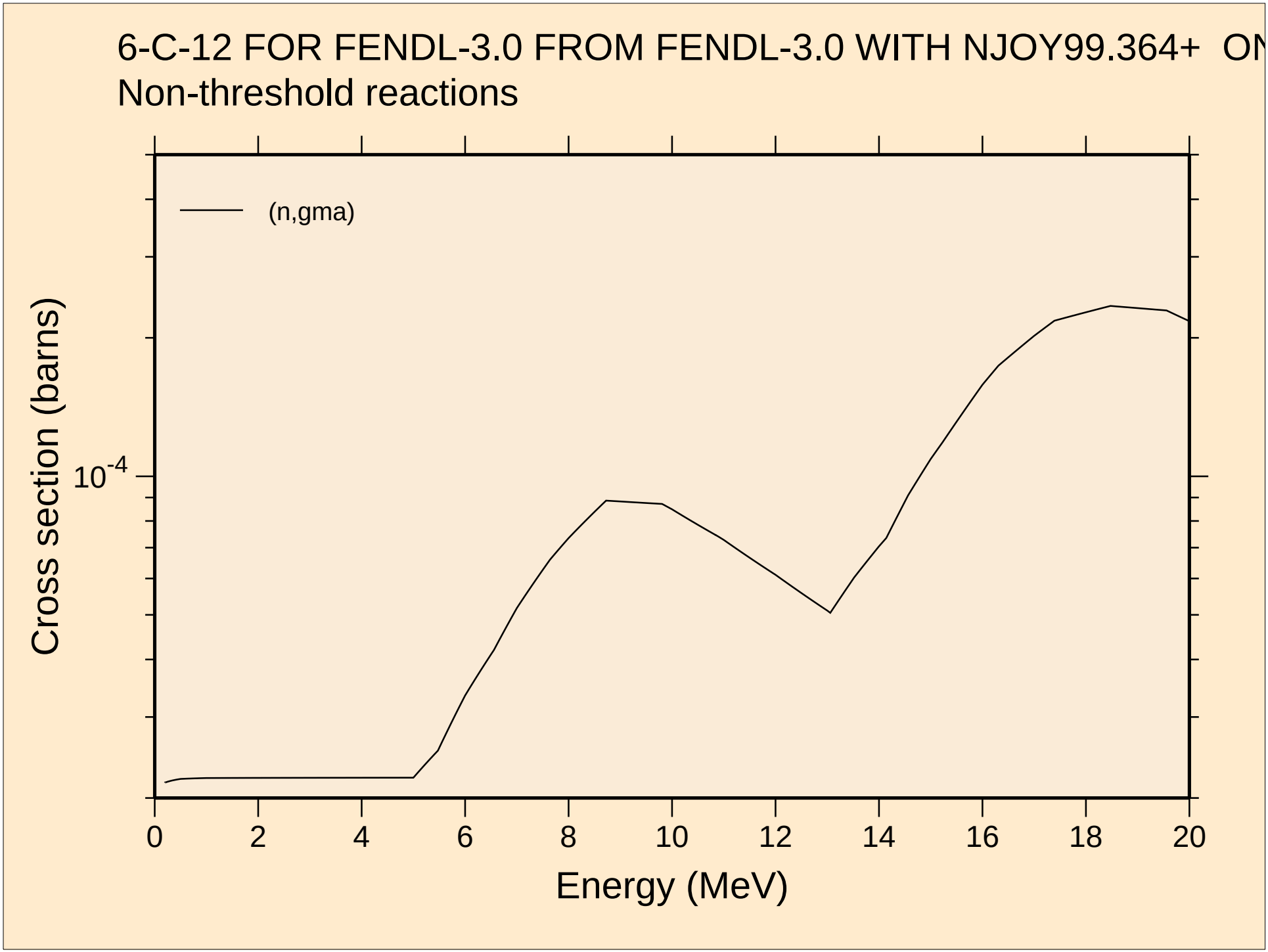

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Damage
damage
Damage (MeV-barns)
Energy (MeV)
10-1
10-2
10-3
10-4
10-5
10-6
10-7
10-11
10-9
10-7
10-5
10-3
10-1
101

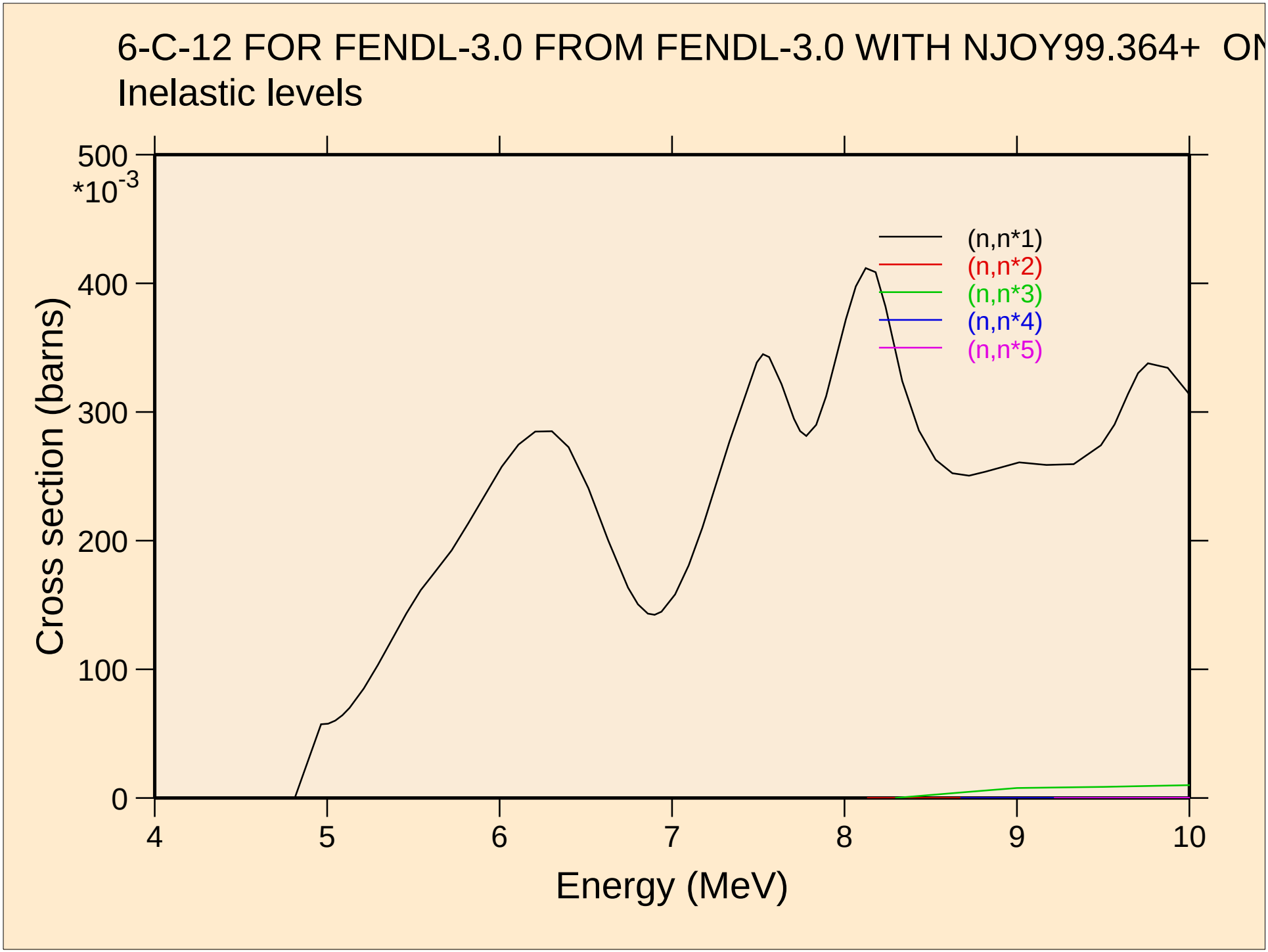

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Non-threshold reactions
(n,gma)
Cross section (barns)
10-1
10-2
10-3
10-4
10-5
10-11 10-10 10-9 10-8 10-7 10-6 10-5 10-4 10-3 10-2 10-1 100 101
Energy (MeV)

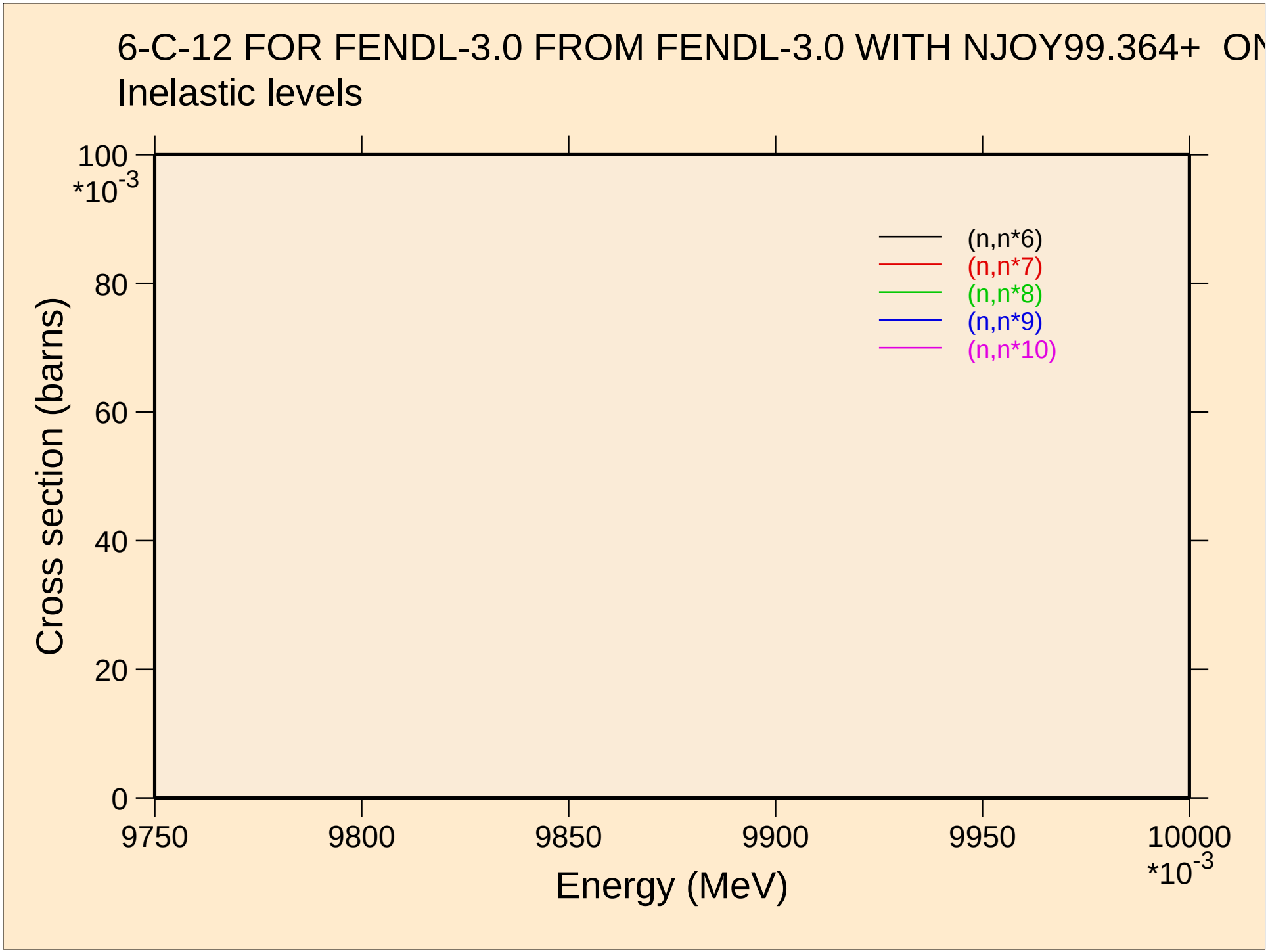

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production
0
1
2
3
4
5
6
7
0
20
40
60
80
100
120
140
160

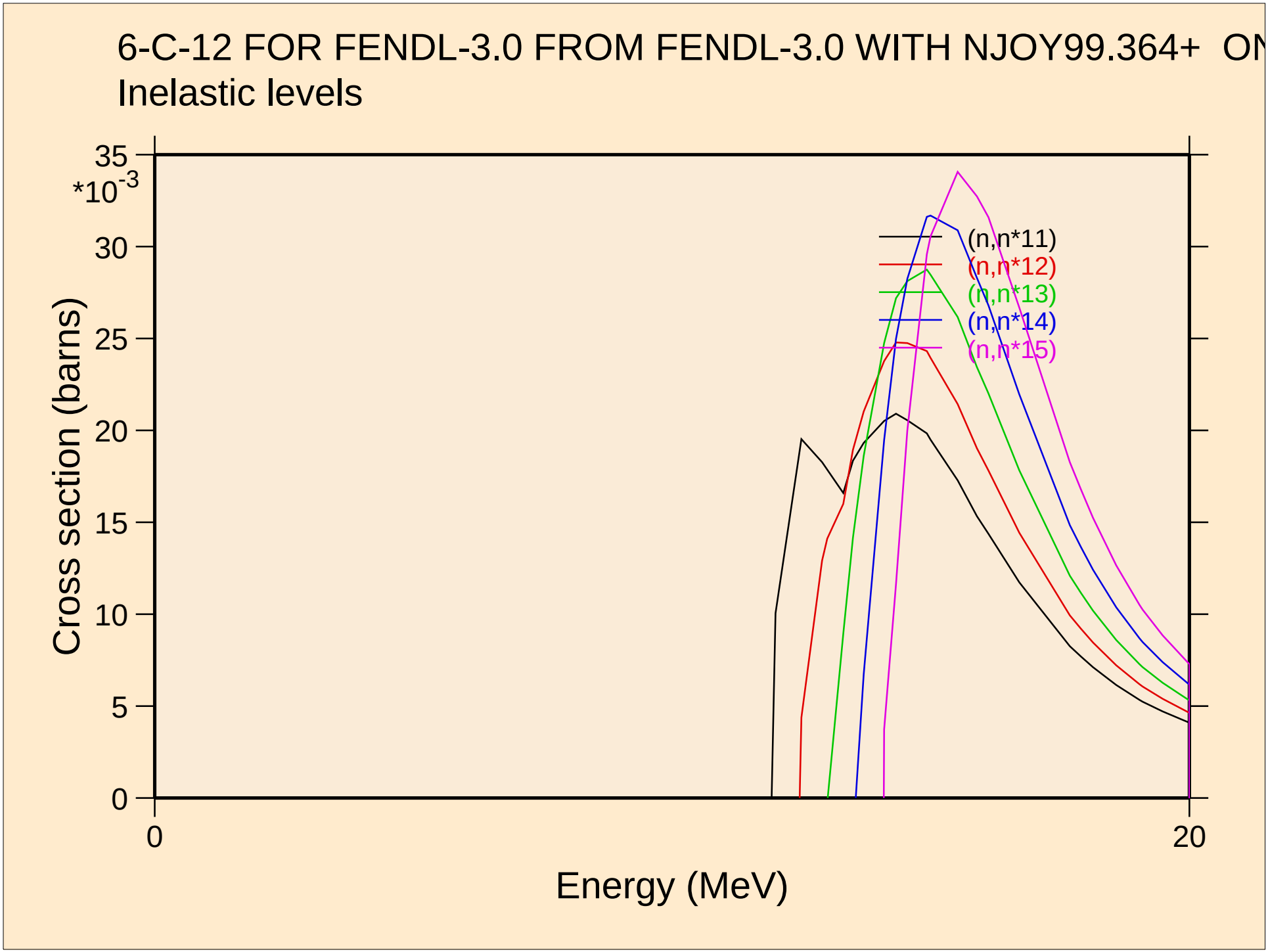

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
10
20
30
40
50
0
20
40
60
80
100
120
140
160

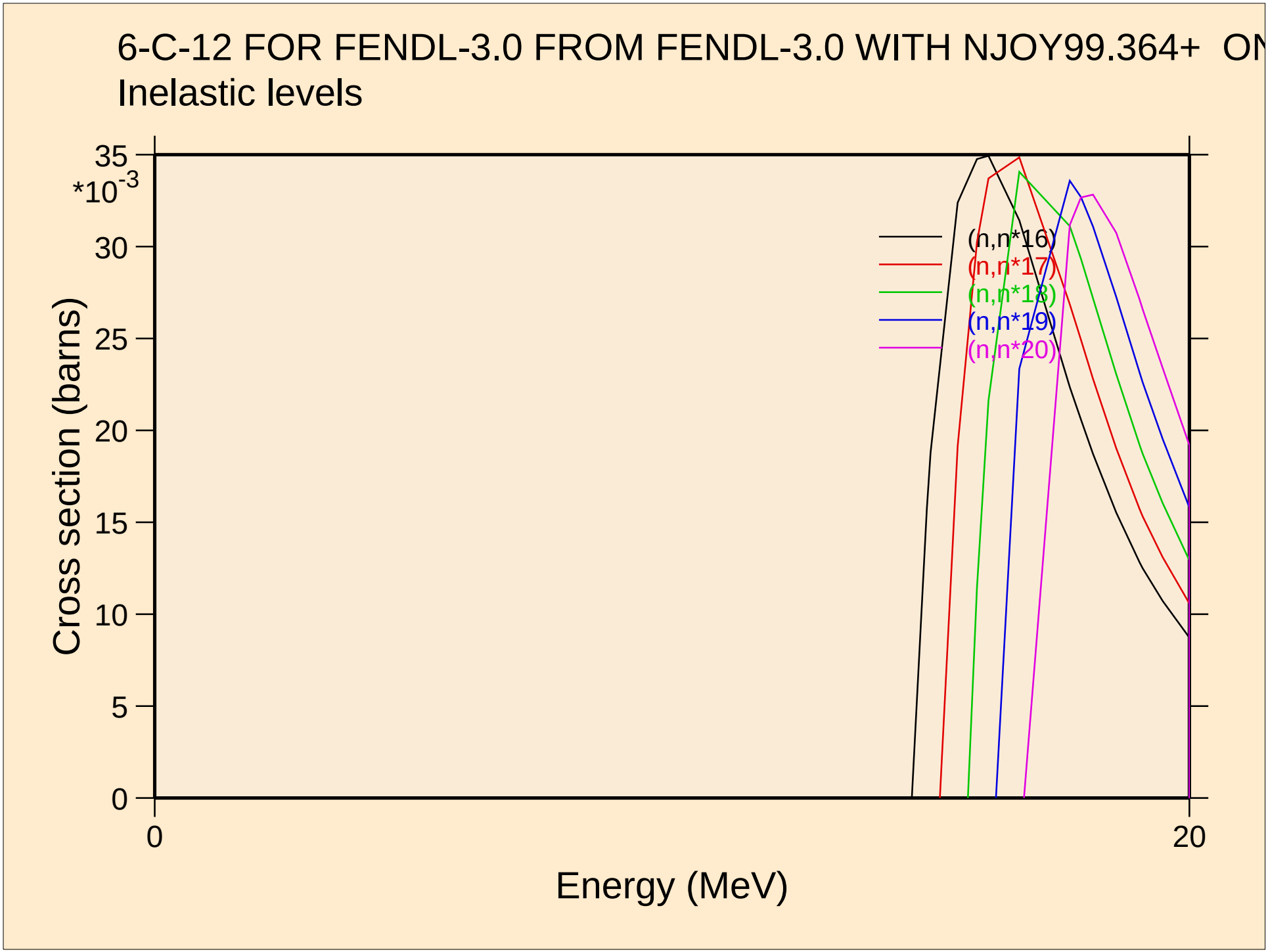

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Damage
*10-3
damage
Damage (MeV-barns)
Energy (MeV)
0
20
40
60
80
100
120
140
160

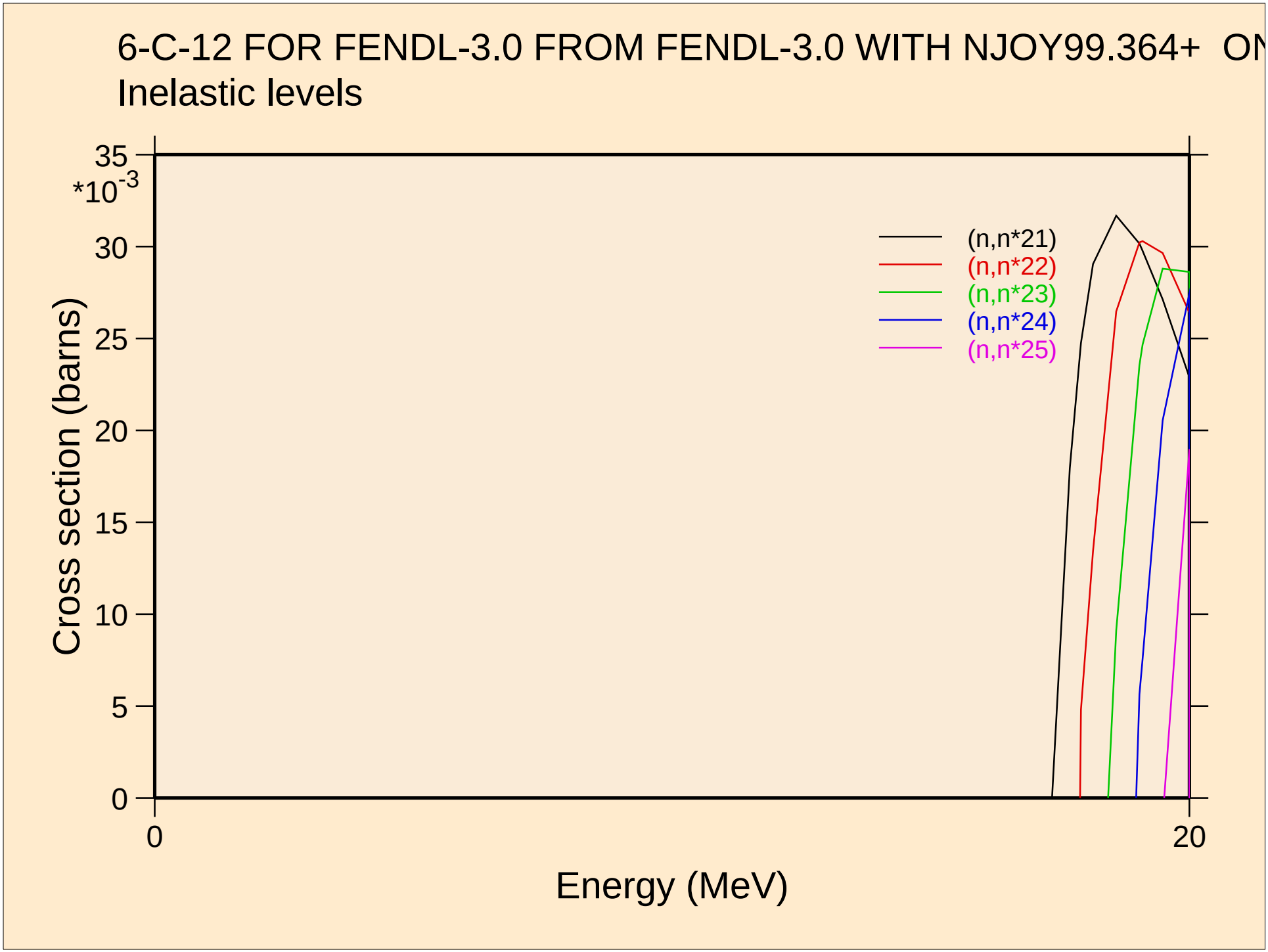

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Non-threshold reactions
(n,gma)
Cross section (barns)
10-4
0
2
4
6
8
10
12
14
16
18
20
Energy (MeV)

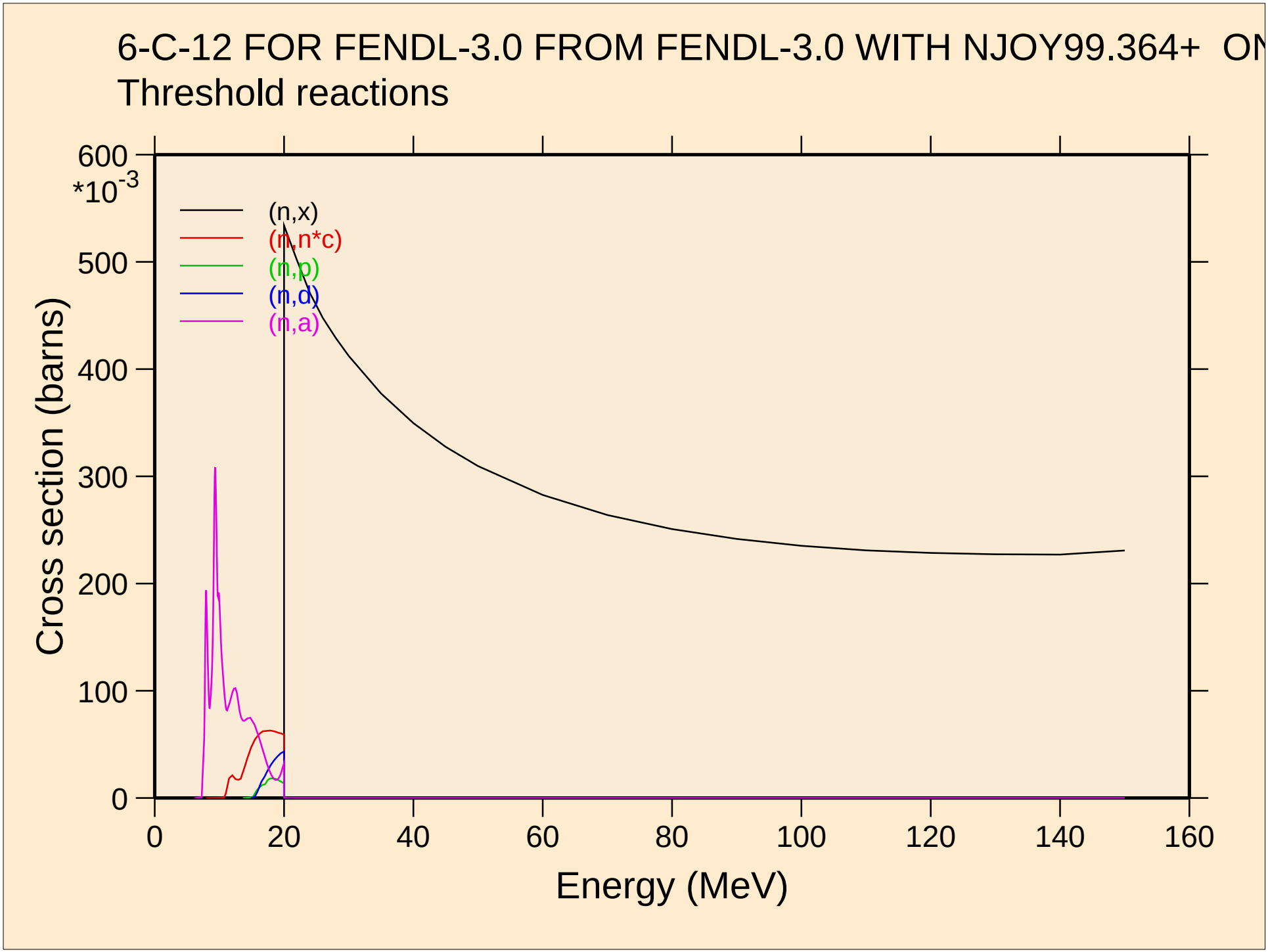

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Inelastic levels
500
*10-3
400
300
200
100
0
Cross section (barns)
4
5
6
7
8
9
10
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

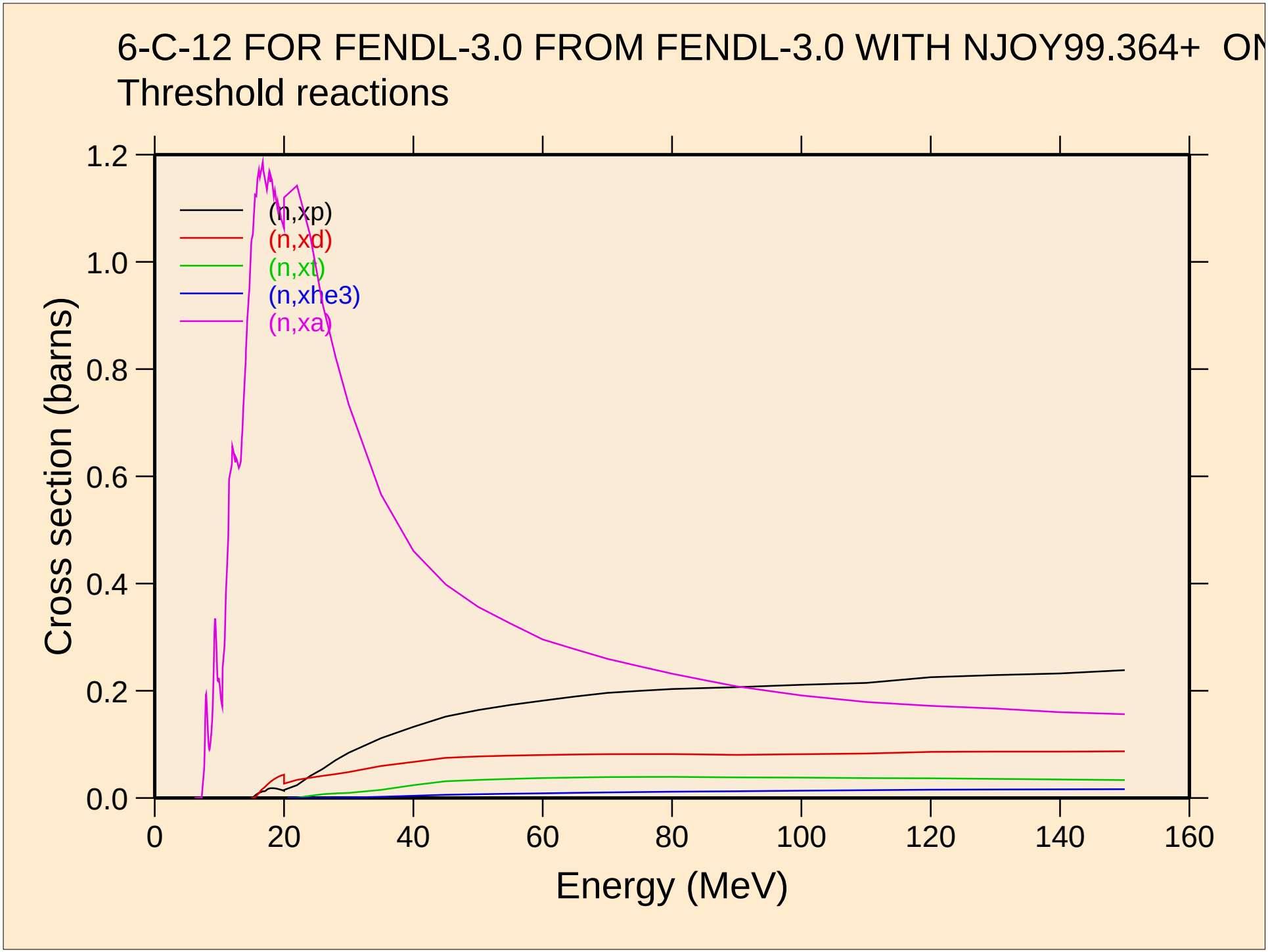

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Inelastic levels
100
*10-3
80
60
40
20
0
Cross section (barns)
9750
9800
9850
9900
9950
10000
*10-3
Energy (MeV)
(n,n*6)
(n,n*7)
(n,n*8)
(n,n*9)
(n,n*10)

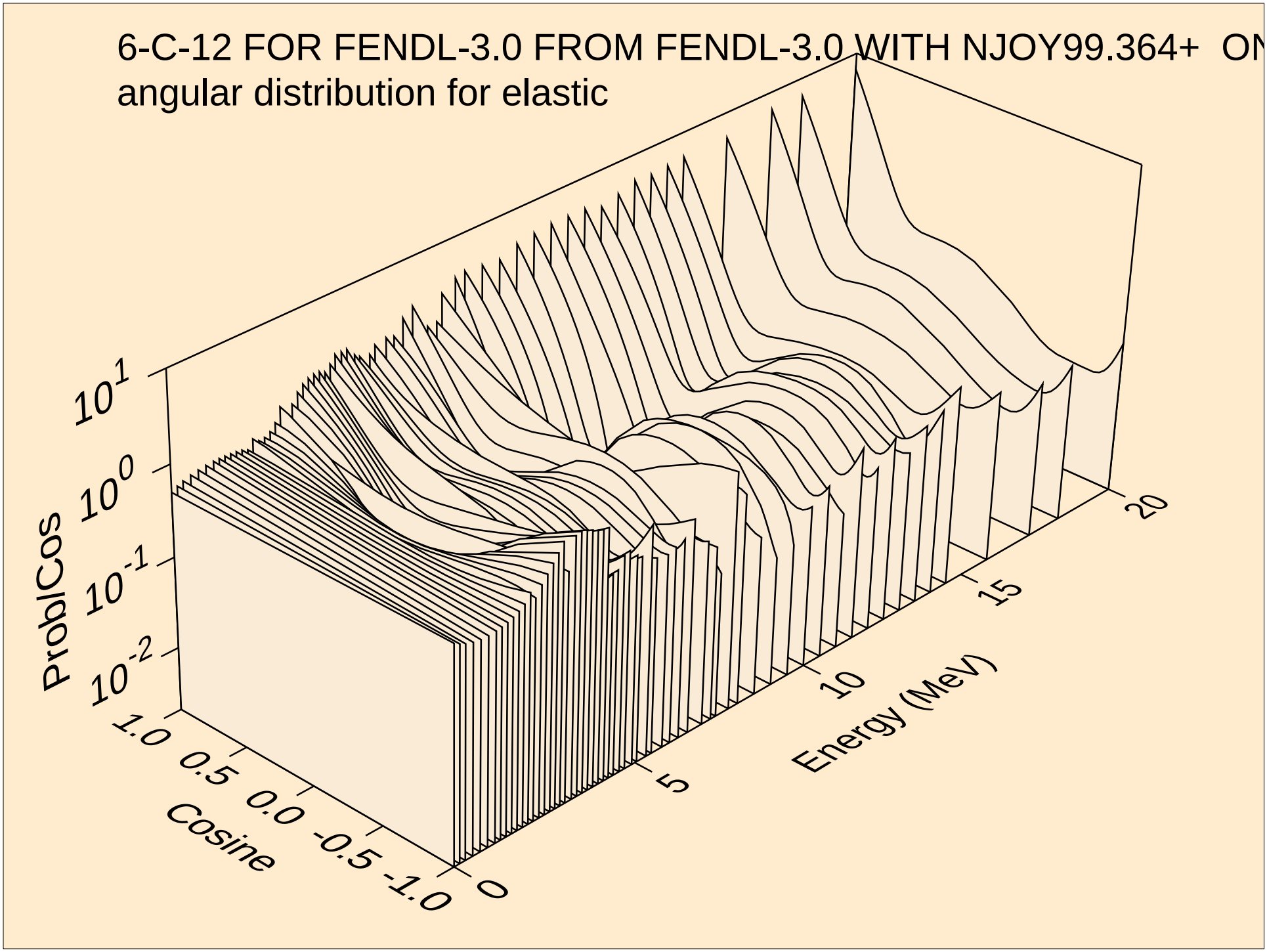

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Inelastic levels
Cross section (barns)
*10-3
35
30
25
20
15
10
5
0
0
20
Energy (MeV)
(n,n*11)
(n,n*12)
(n,n*13)
(n,n*14)
(n,n*15)

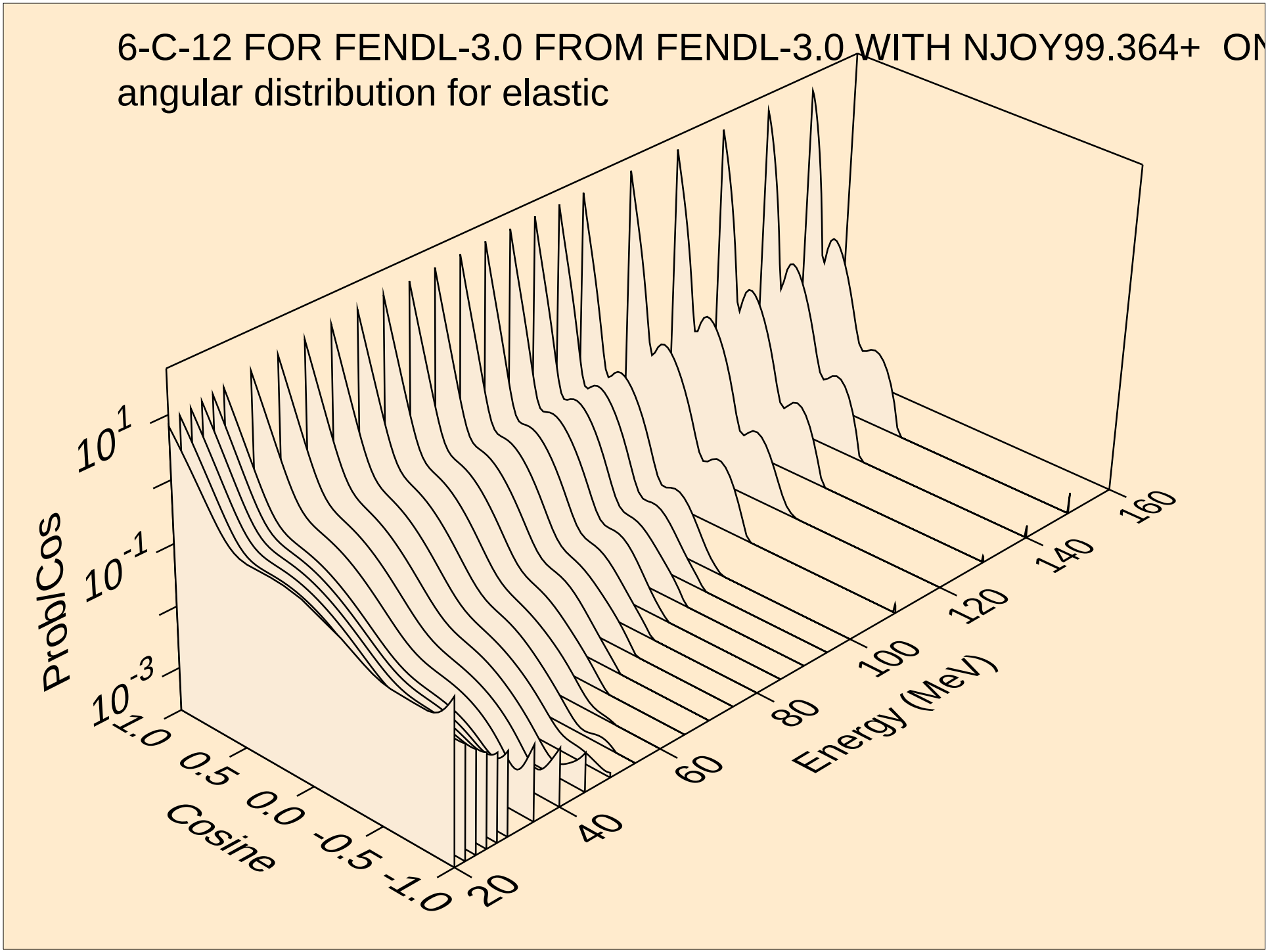

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Inelastic levels
35
*10-3
30
25
20
15
10
5
0
Cross section (barns)
0
20
Energy (MeV)
(n,n*16)
(n,n*17)
(n,n*18)
(n,n*19)
(n,n*20)

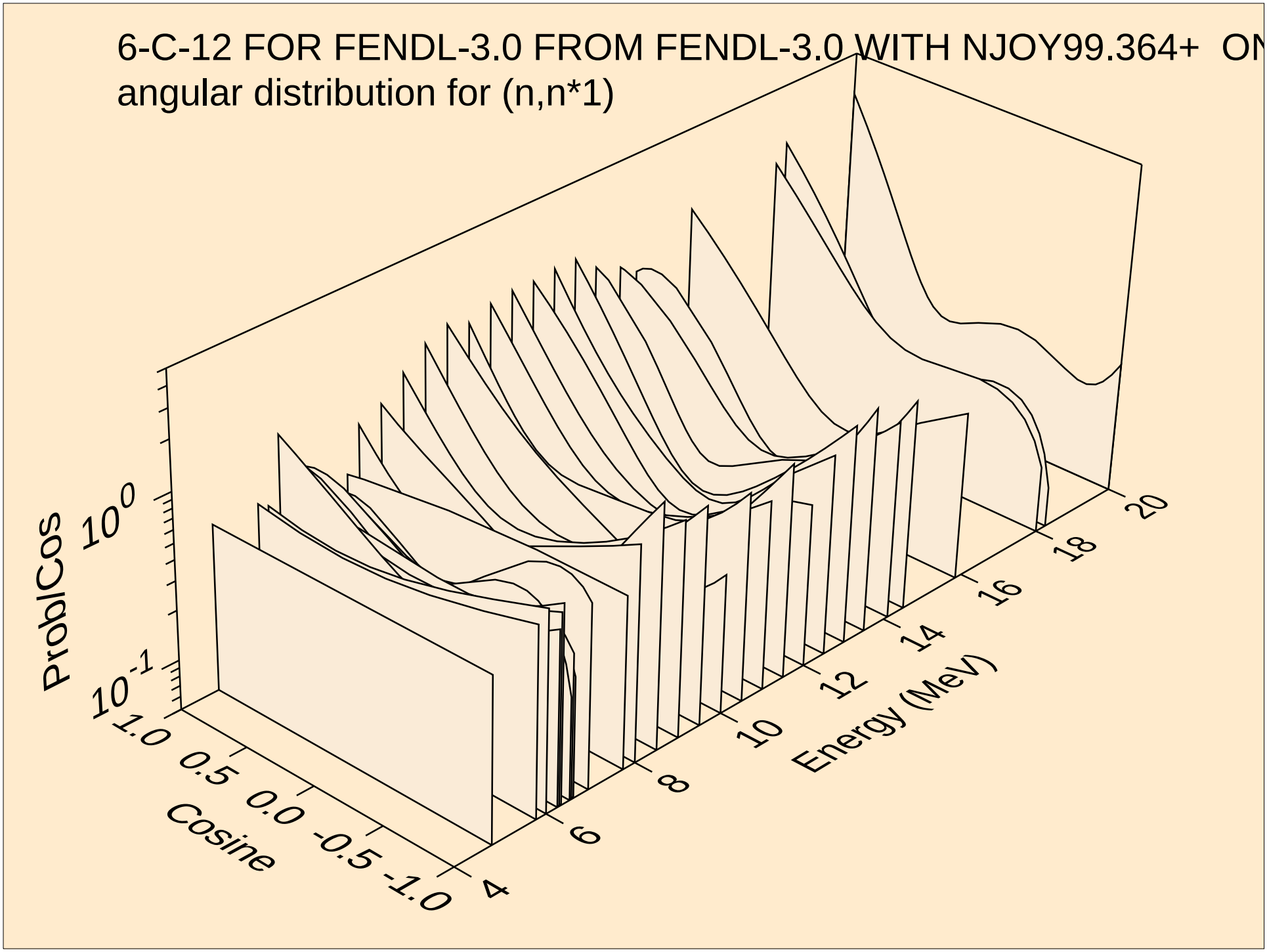

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Inelastic levels
35
*10-3
30
25
20
15
10
5
0
Cross section (barns)
0
20
Energy (MeV)
(n,n*21)
(n,n*22)
(n,n*23)
(n,n*24)
(n,n*25)

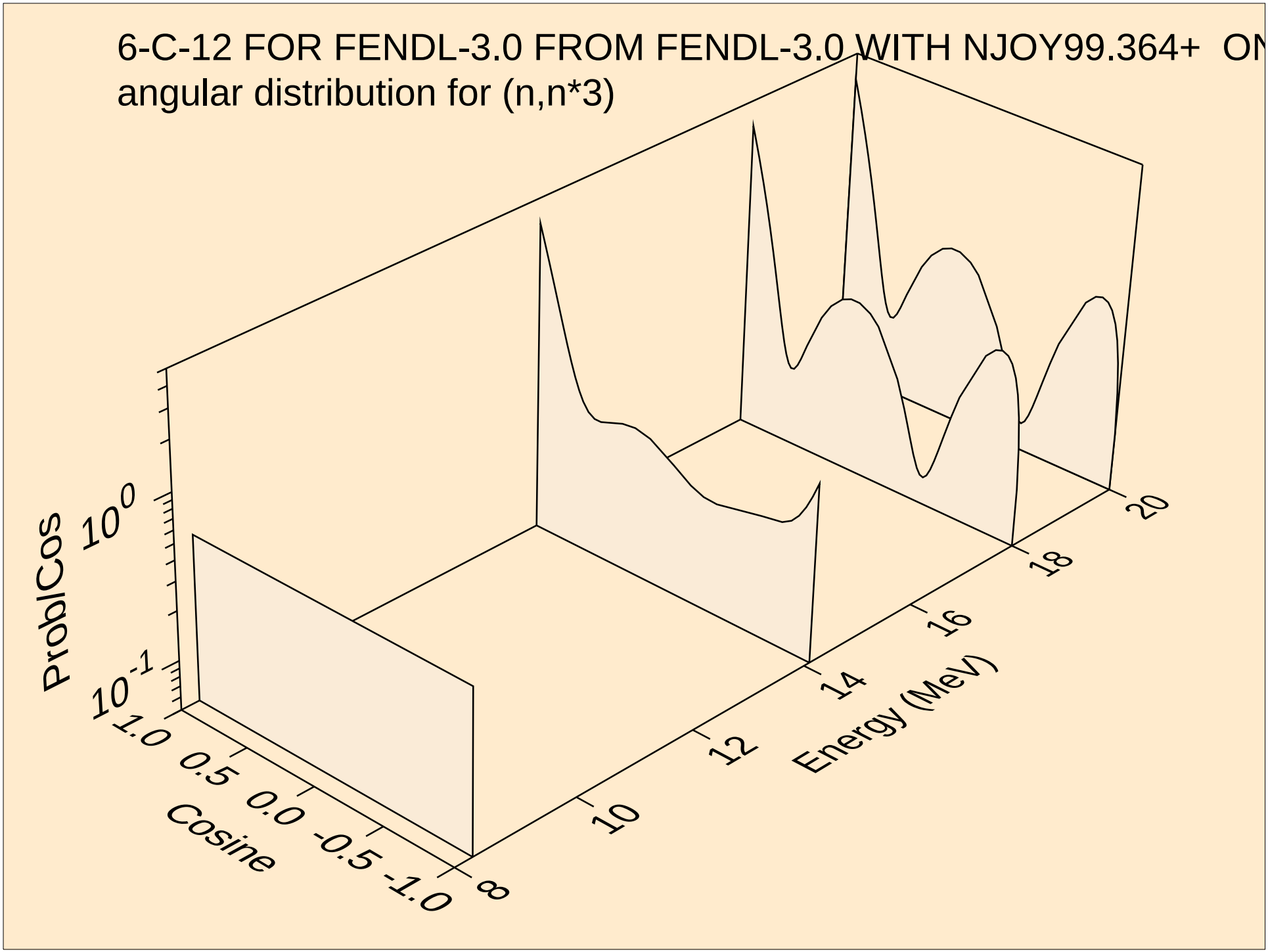

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Threshold reactions
600
*10-3
500
400
300
200
100
0
Cross section (barns)
(n,x)
(n,n*c)
(n,p)
(n,d)
(n,a)
0
20
40
60
80
100
120
140
160
Energy (MeV)

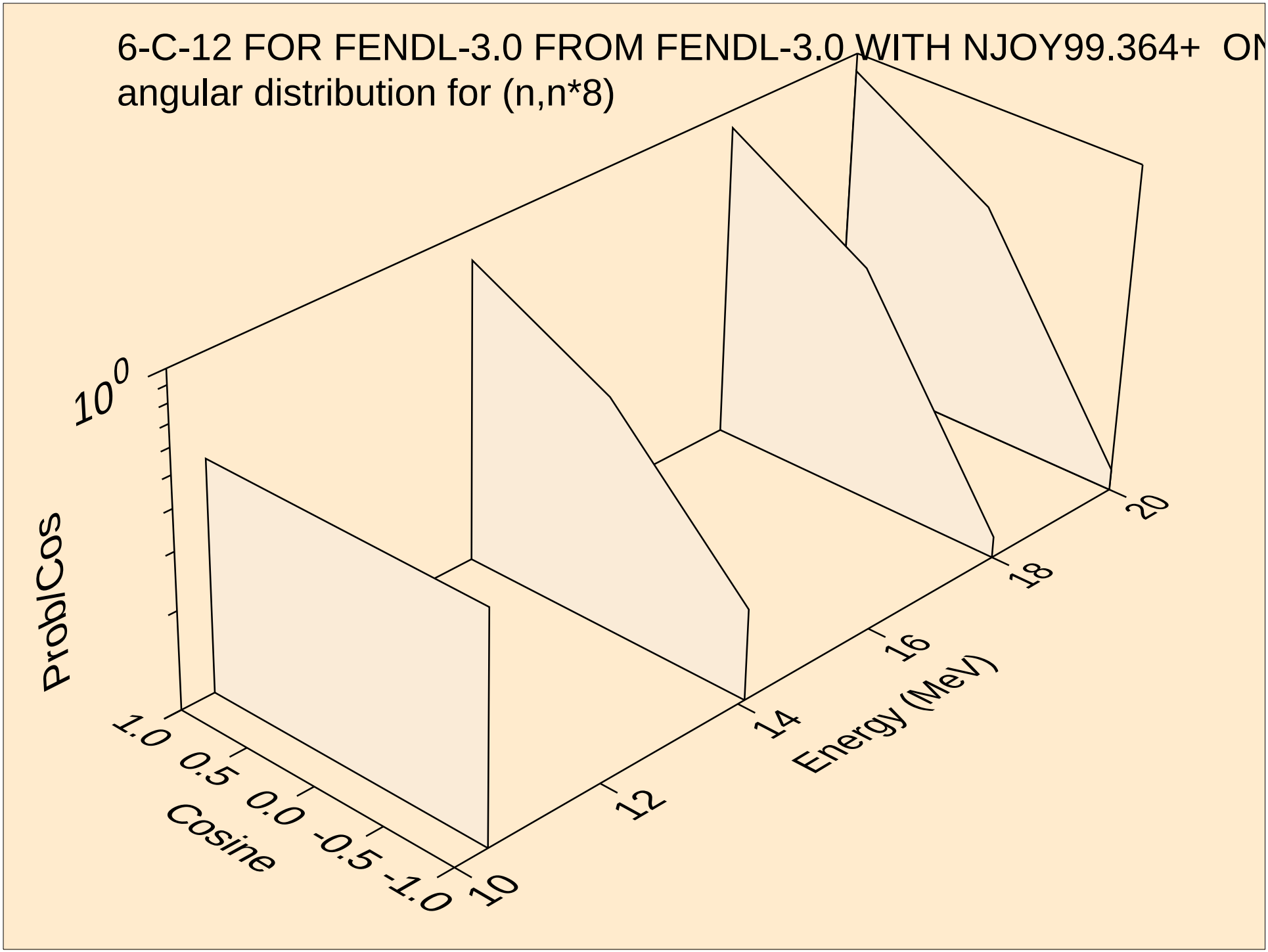

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Threshold reactions
Cross section (barns)
Energy (MeV)
(n,xp)
(n,xd)
(n,xt)
(n,xhe3)
(n,xa)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0
20
40
60
80
100
120
140
160

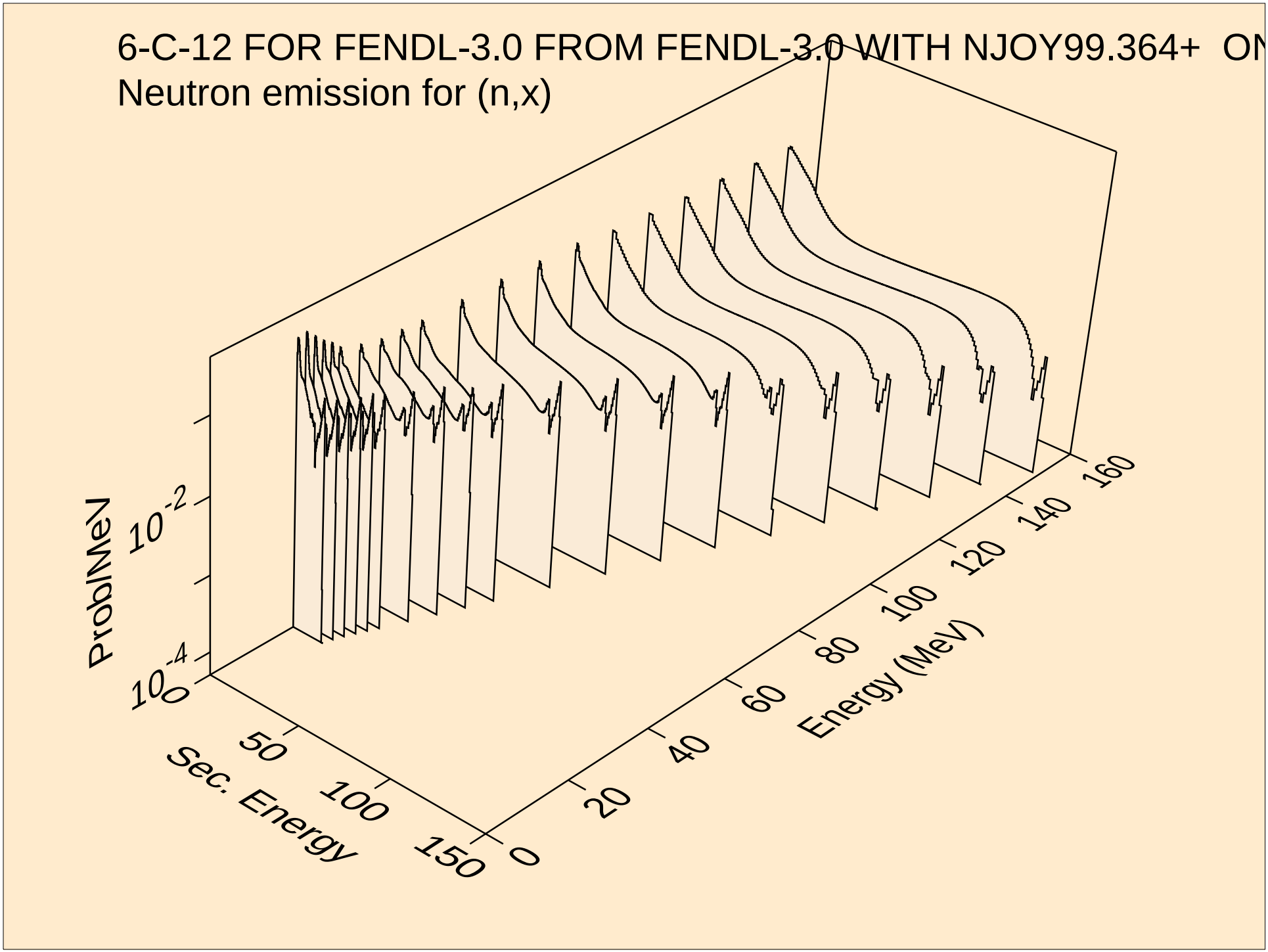

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
angular distribution for elastic
ProbCos
$10^{1}$
$10^{0}$
$10^{-1}$
$10^{-2}$
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

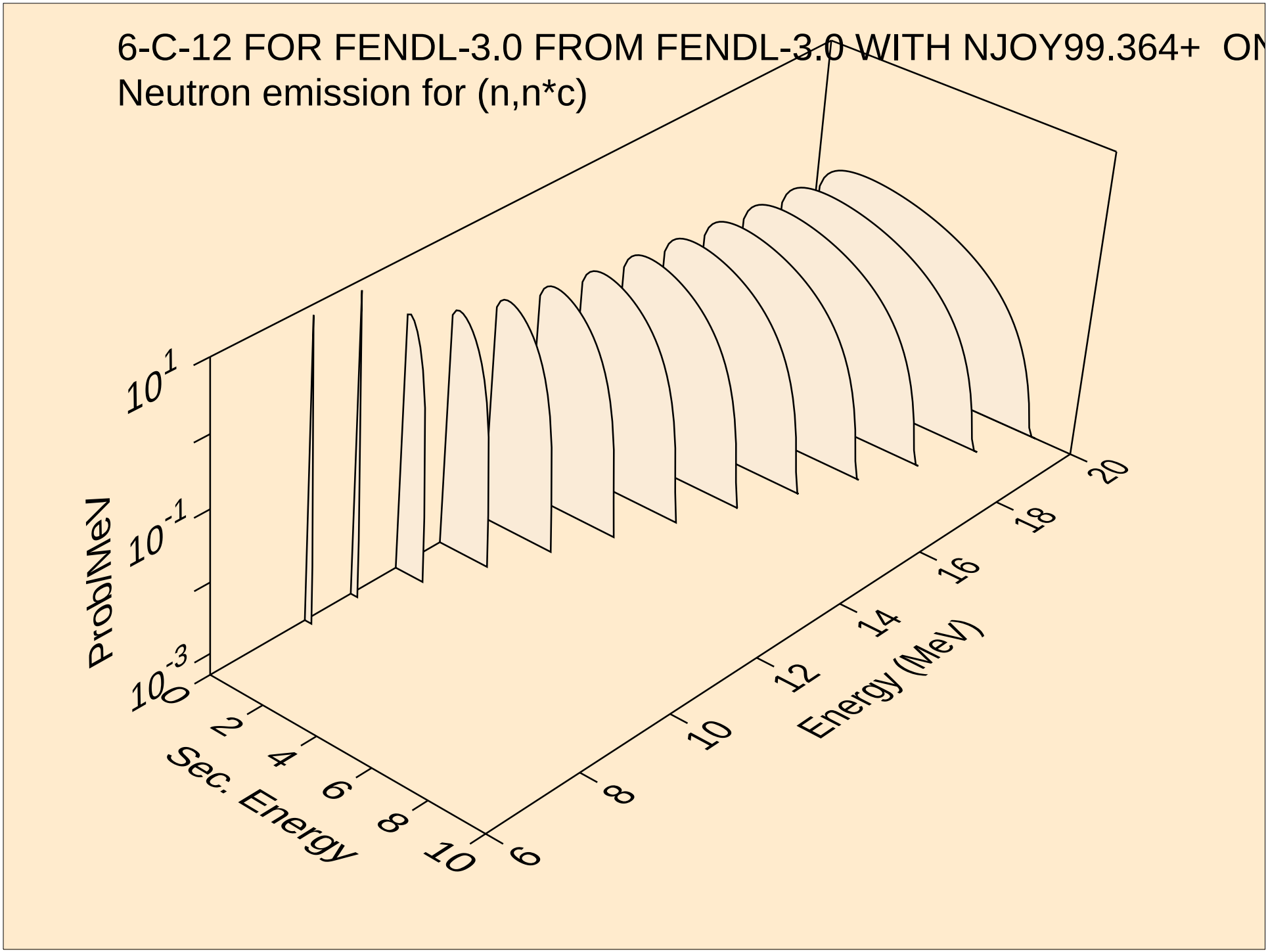

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
angular distribution for elastic
ProbICos
10^1
10^-1
10^-3
1.0
0.5
0.0
-0.5
-1.0
Cosine
20
40
60
80
100
120
140
160
Energy (MeV)

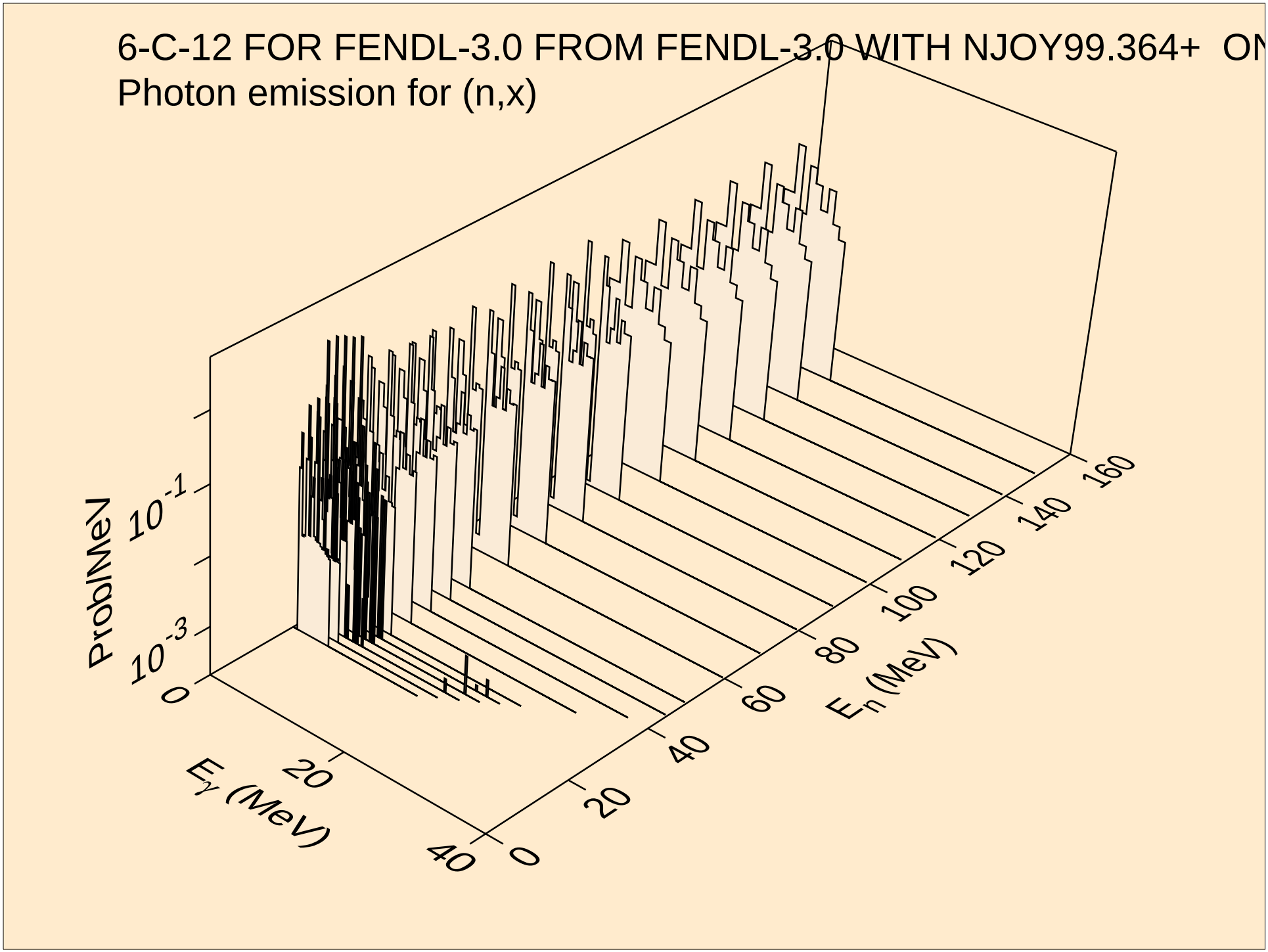

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
angular distribution for (n,n*1)
ProbICos
$10^{0}$
$10^{-1}$
1.0
0.5
0.0
-0.5
-1.0
Cosine
4
6
8
10
12
14
16
18
20
Energy (MeV)

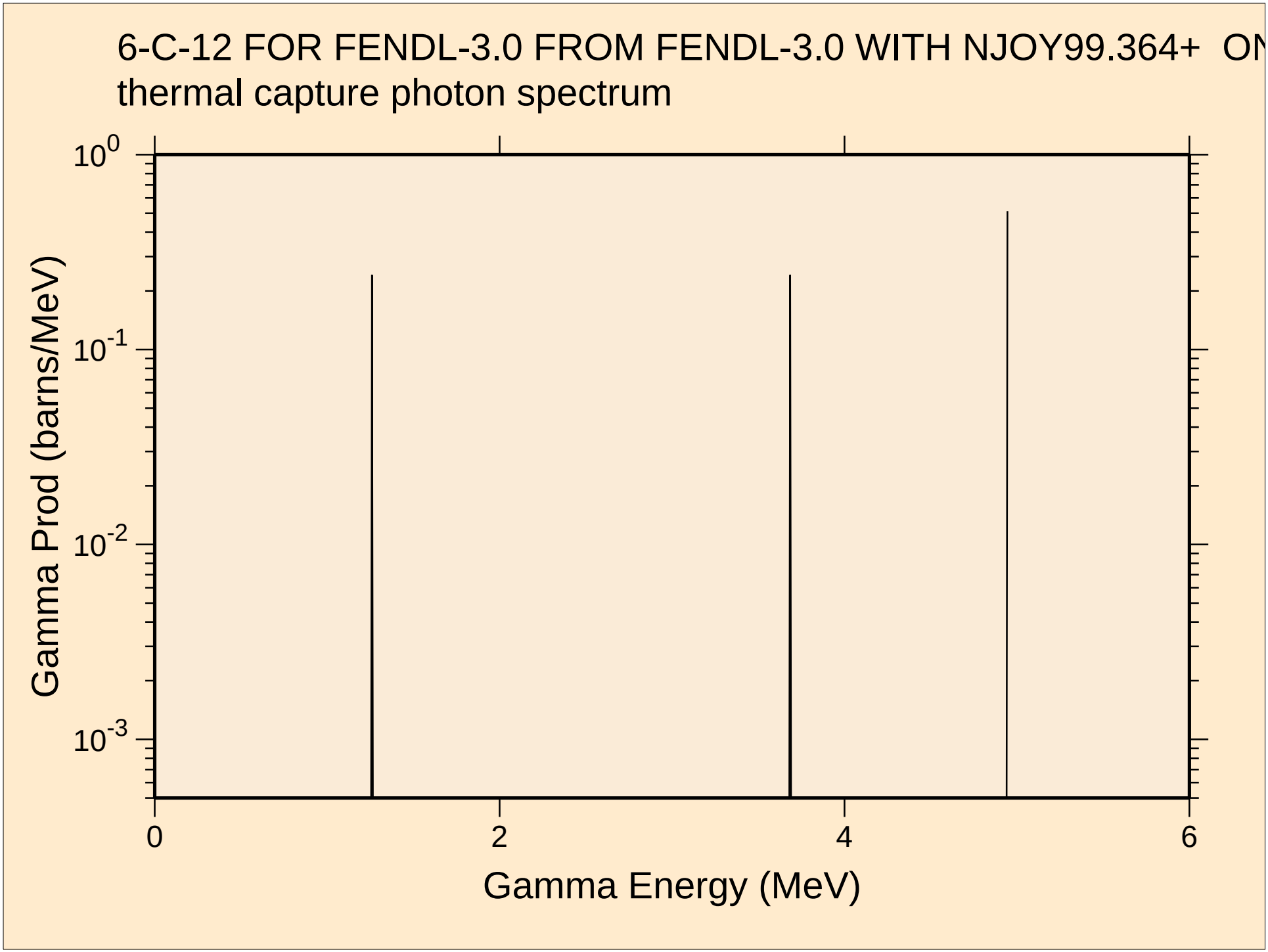

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
angular distribution for (n,n*3)
ProbICos
10^0
10^-1
1.0
0.5
0.0
-0.5
-1.0
Cosine
8
10
12
14
16
18
20
Energy (MeV)

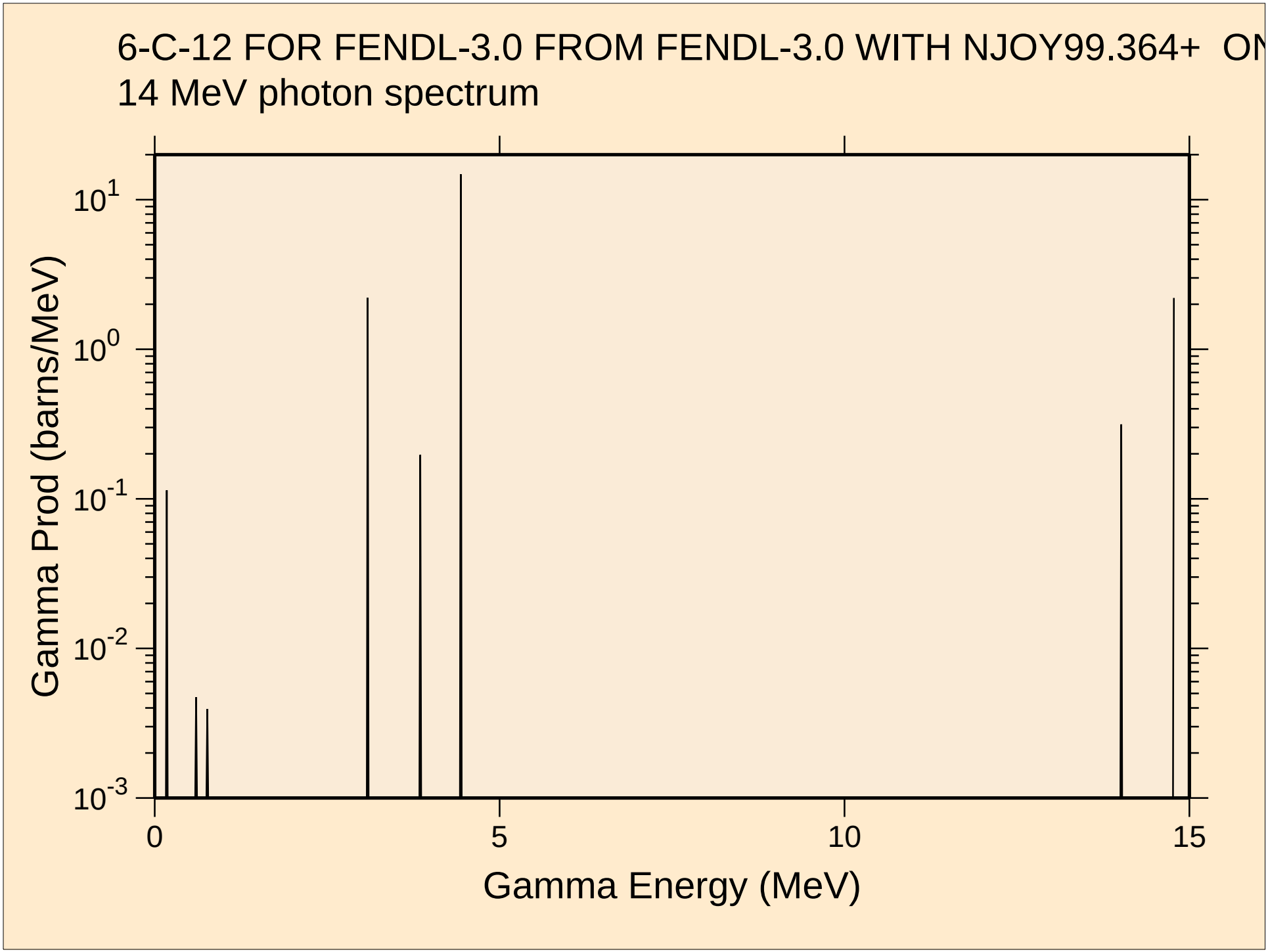

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
angular distribution for (n,n*8)
$10^0$
ProblCos
1.0
0.5
0.0
-0.5
-1.0
Cosine
10
12
14
16
18
20
Energy (MeV)

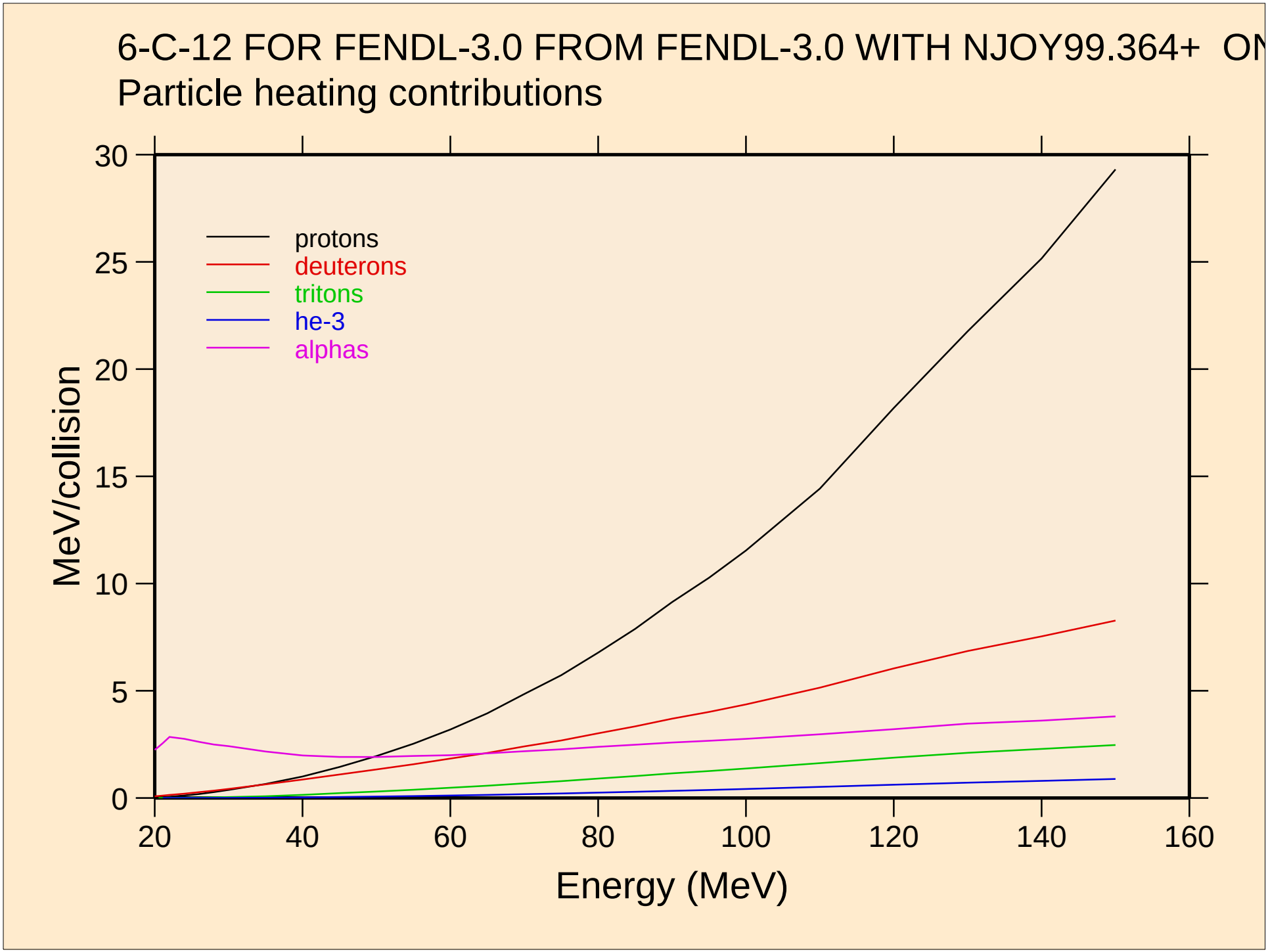

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Neutron emission for (n,x)
Prob/MeV
10-2
10-4
0
50
100
150
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

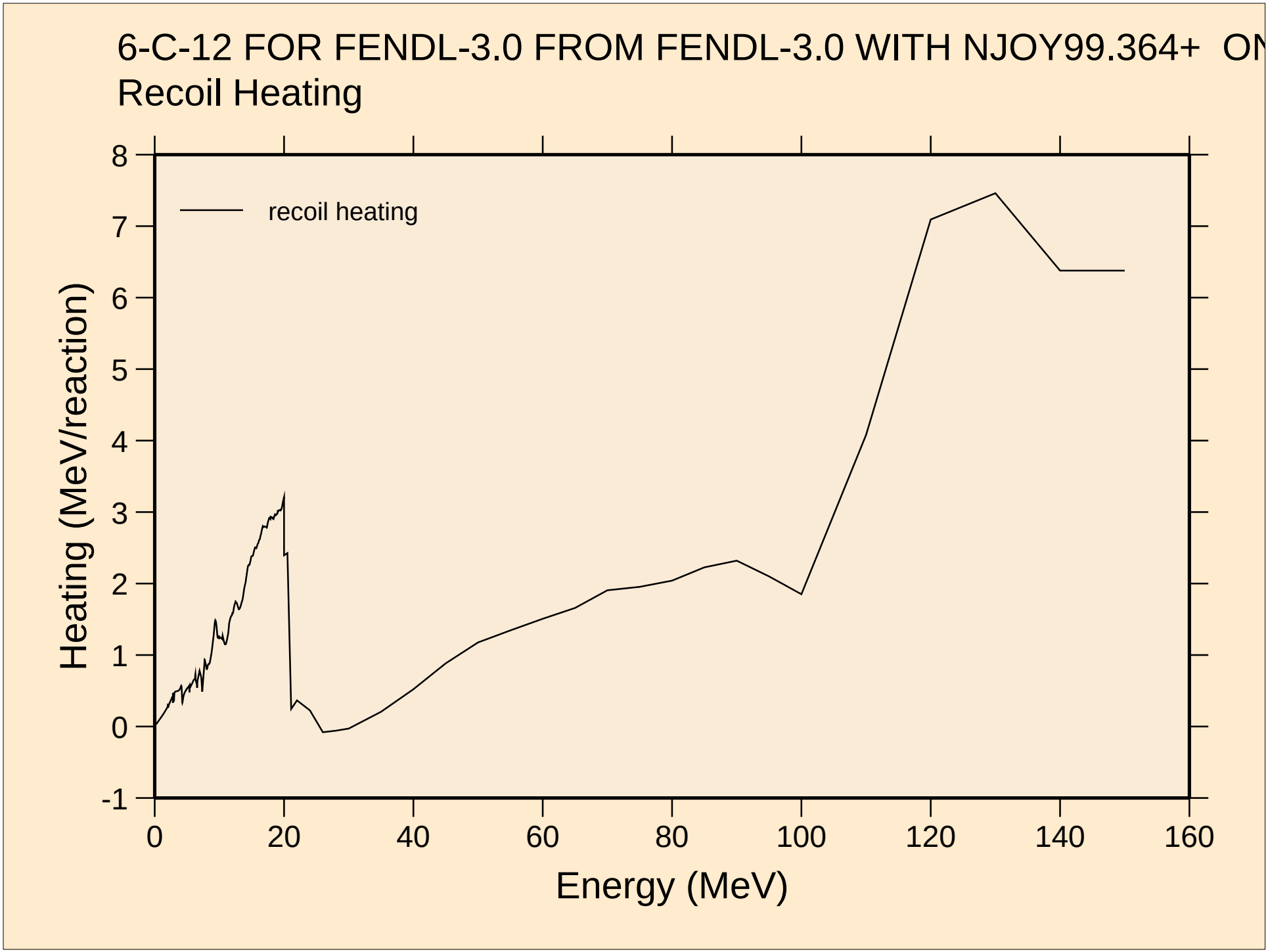

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Neutron emission for (n,n*c)
Prob/MeV
10^1
10^-1
10^-3
0
2
4
6
8
10
Sec. Energy
6
8
10
12
14
16
18
20
Energy (MeV)

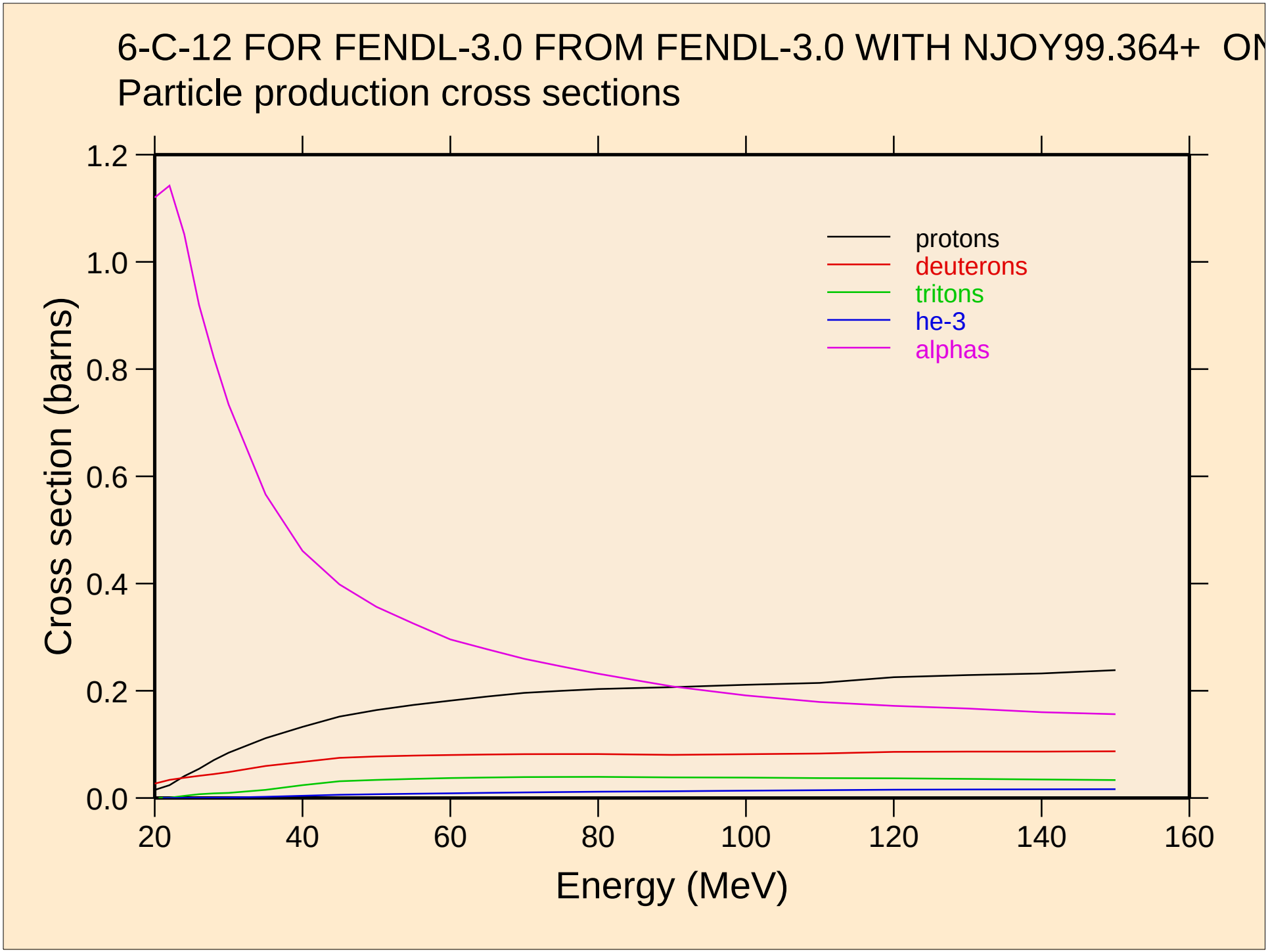

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Photon emission for (n,x)
Prob/MeV
10-1
10-3
0
Eγ (MeV)
20
40
0
20
40
60
80
100
120
140
160
En (MeV)

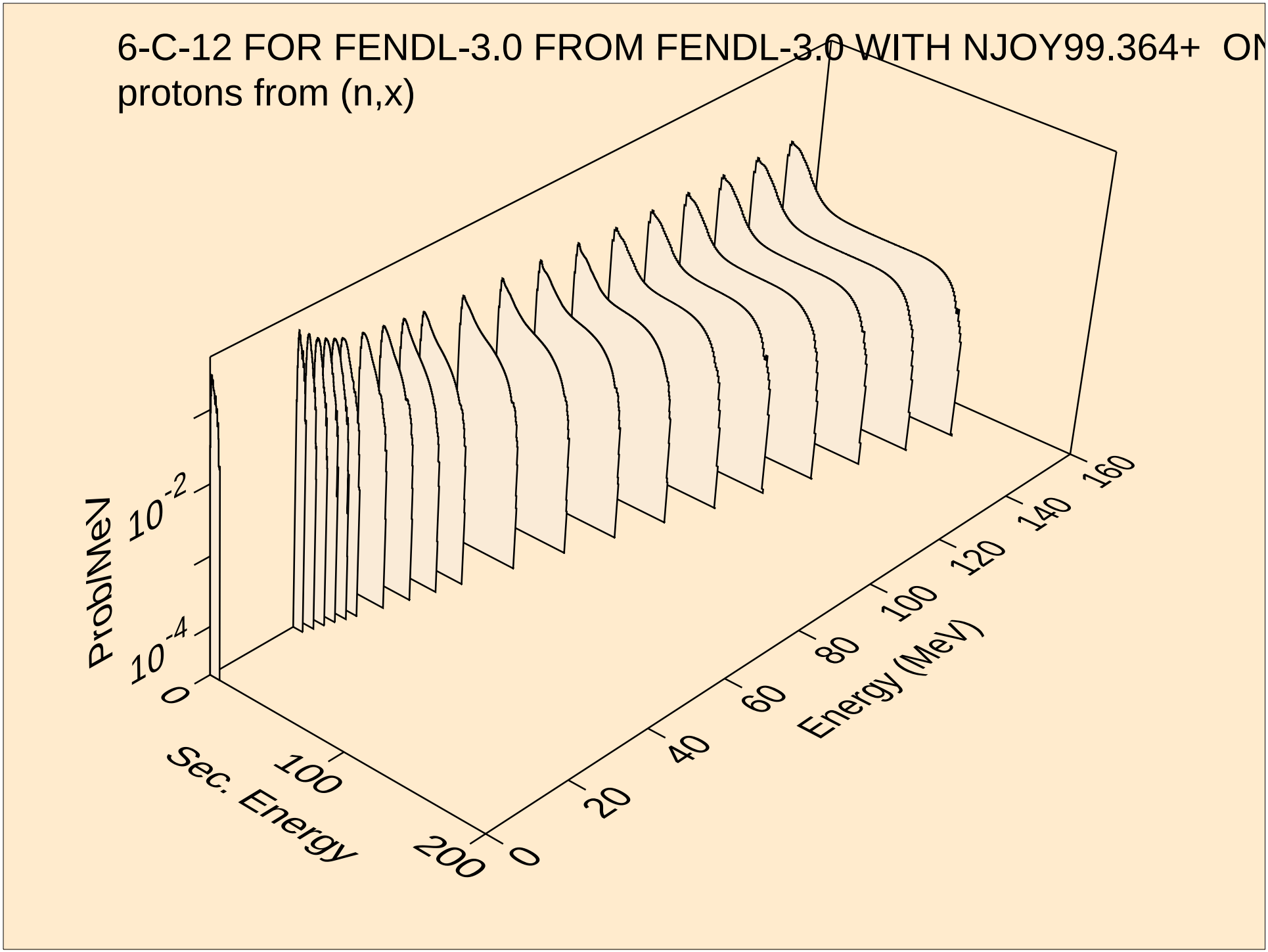

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10^0
10^-1
10^-2
10^-3
0
2
4
6
Gamma Energy (MeV)

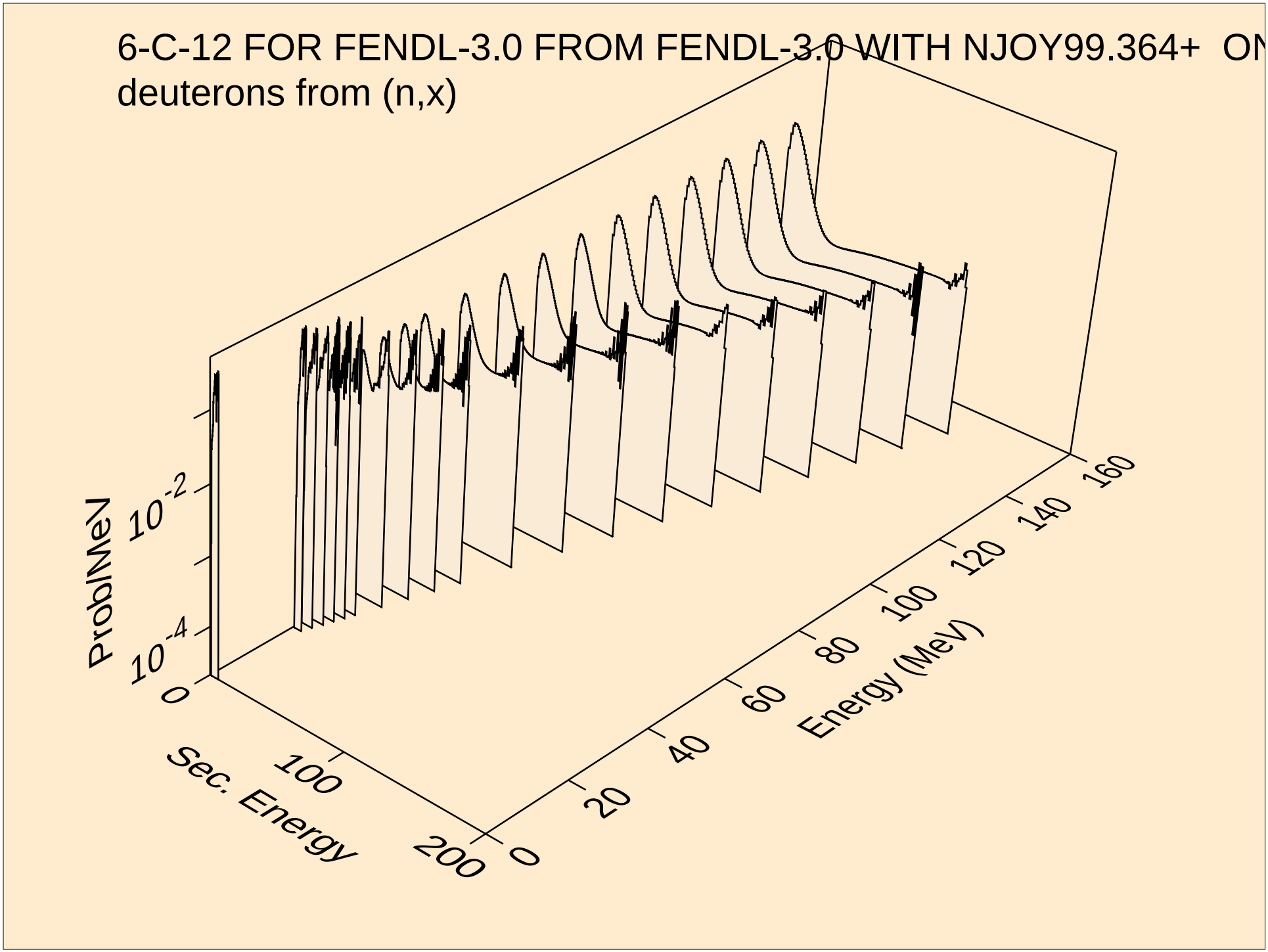

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^1
10^0
10^-1
10^-2
10^-3
0
5
10
15
Gamma Energy (MeV)

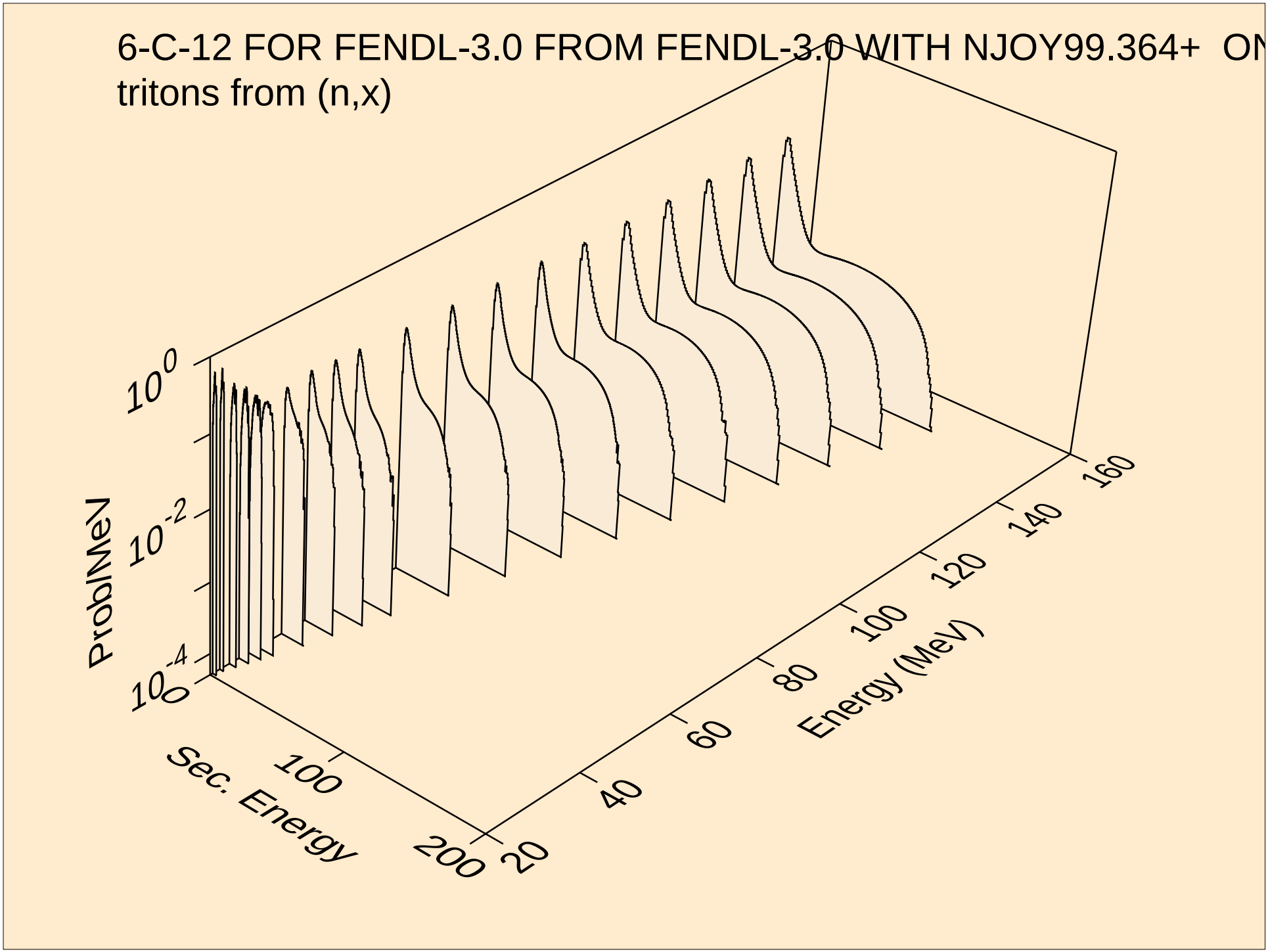

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Particle heating contributions
protons
deuterons
tritons
he-3
alphas
MeV/collision
Energy (MeV)
0
5
10
15
20
25
30
20
40
60
80
100
120
140
160

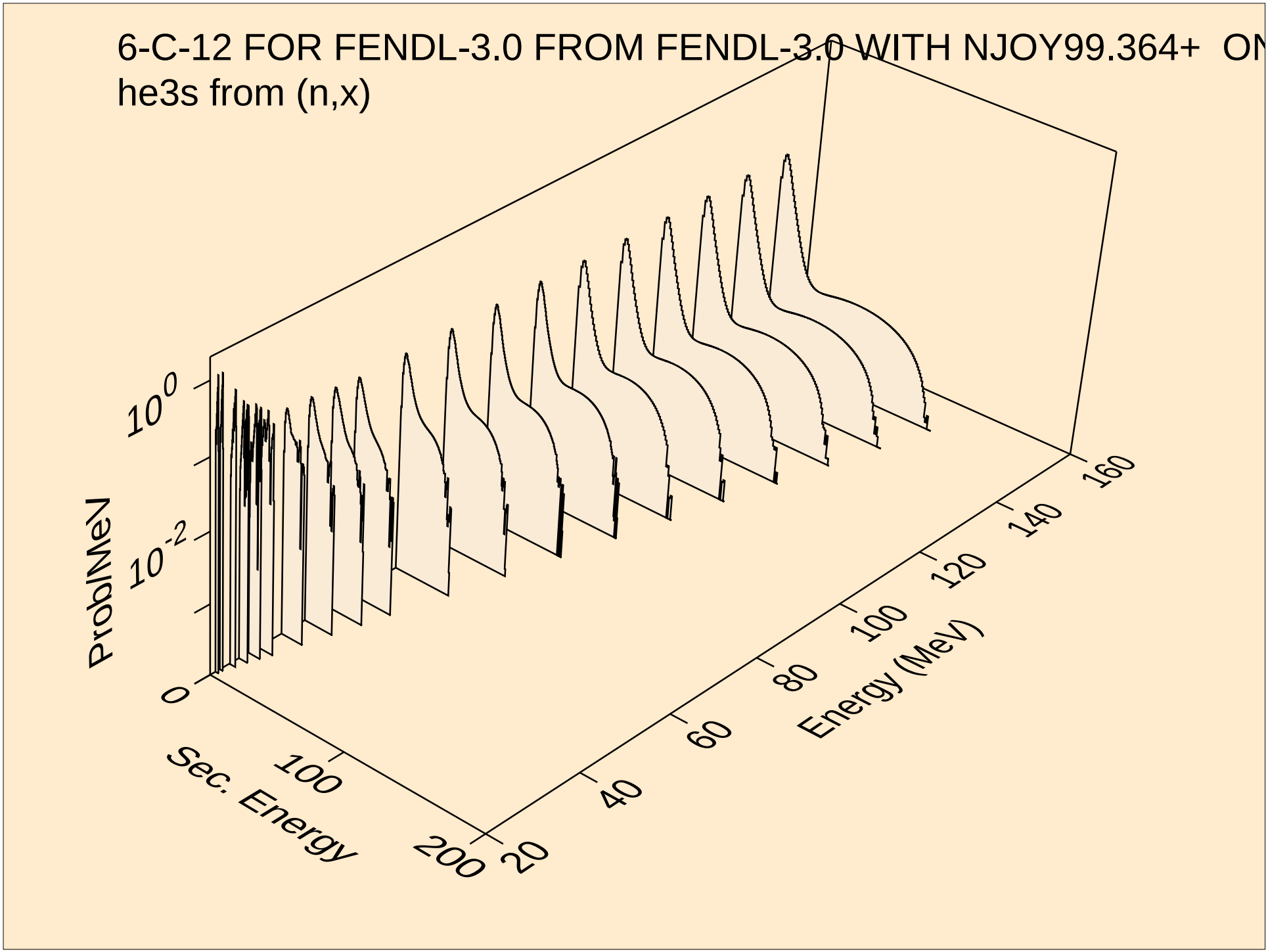

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Recoil Heating
recoil heating
Heating (MeV/reaction)
Energy (MeV)
8
7
6
5
4
3
2
1
0
-1
0
20
40
60
80
100
120
140
160

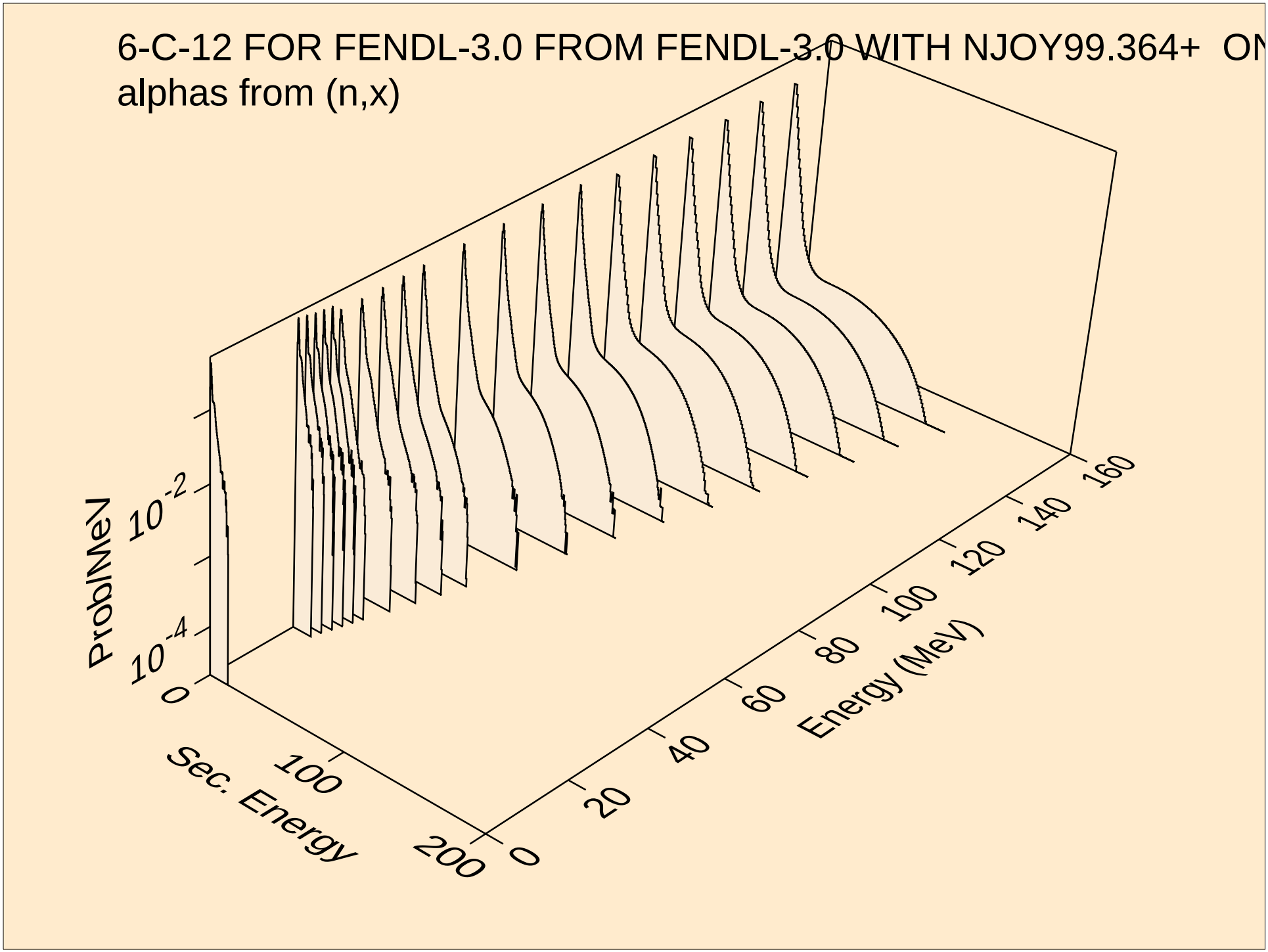

6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
Particle production cross sections
Cross section (barns)
Energy (MeV)
protons
deuterons
tritons
he-3
alphas
0.0
0.2
0.4
0.6
0.8
1.0
1.2
20
40
60
80
100
120
140
160


6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
protons from (n,x)
Prob/MeV
10-2
10-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)


6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
deuterons from (n,x)
Prob/MeV
10-2
10-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)


6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
tritons from (n,x)
Prob/MeV
10^0
10^-2
10^-4
0
100
200
Sec. Energy
20
40
60
80
100
120
140
160
Energy (MeV)


6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
he3s from (n,x)
Prob/MeV
10^0
10^-2
0
100
200
Sec. Energy
20
40
60
80
100
120
140
160
Energy (MeV)


6-C-12 FOR FENDL-3.0 FROM FENDL-3.0 WITH NJOY99.364+ ON
alphas from (n,x)
Prob/MeV
10-2
10-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)