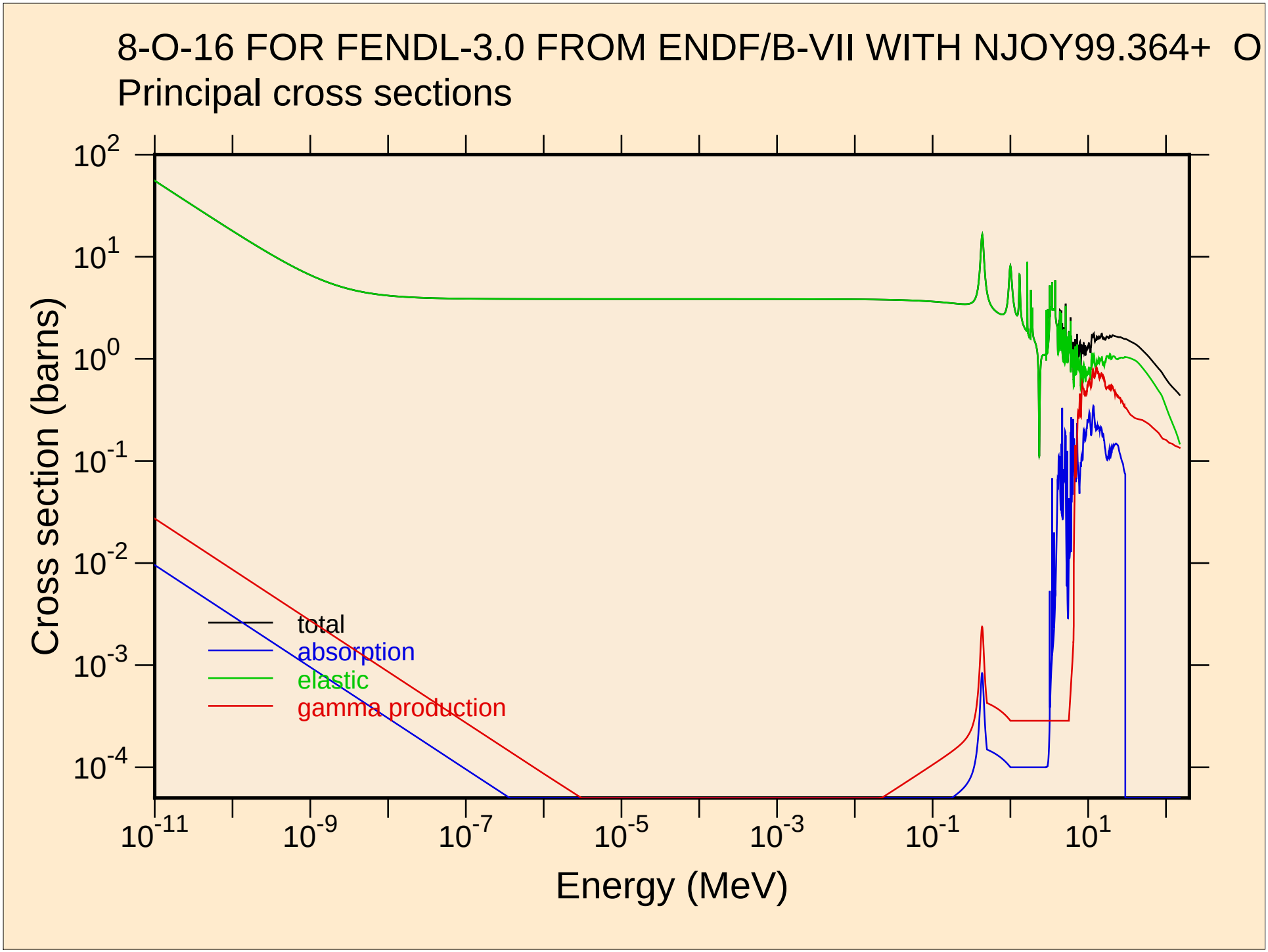
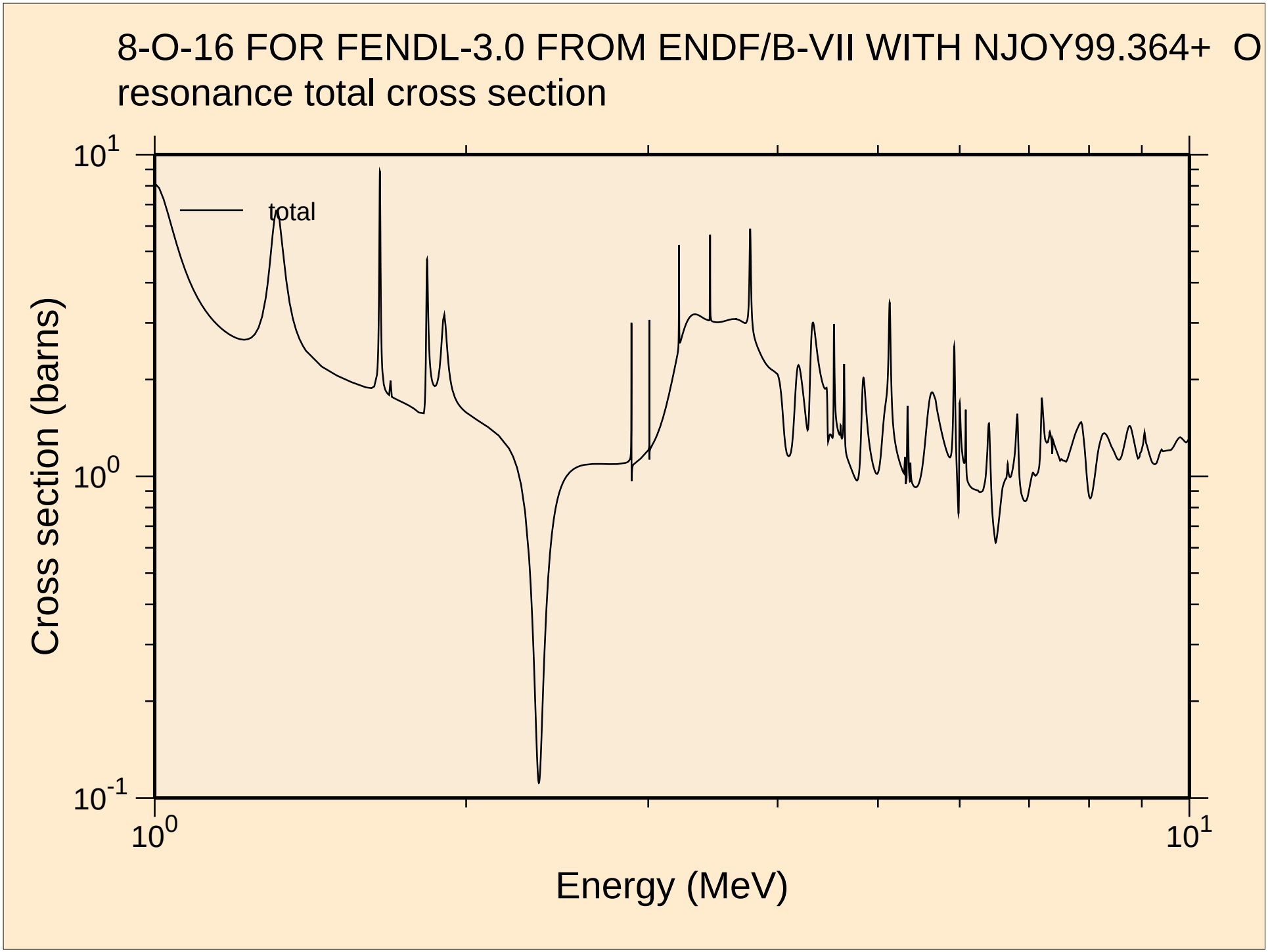
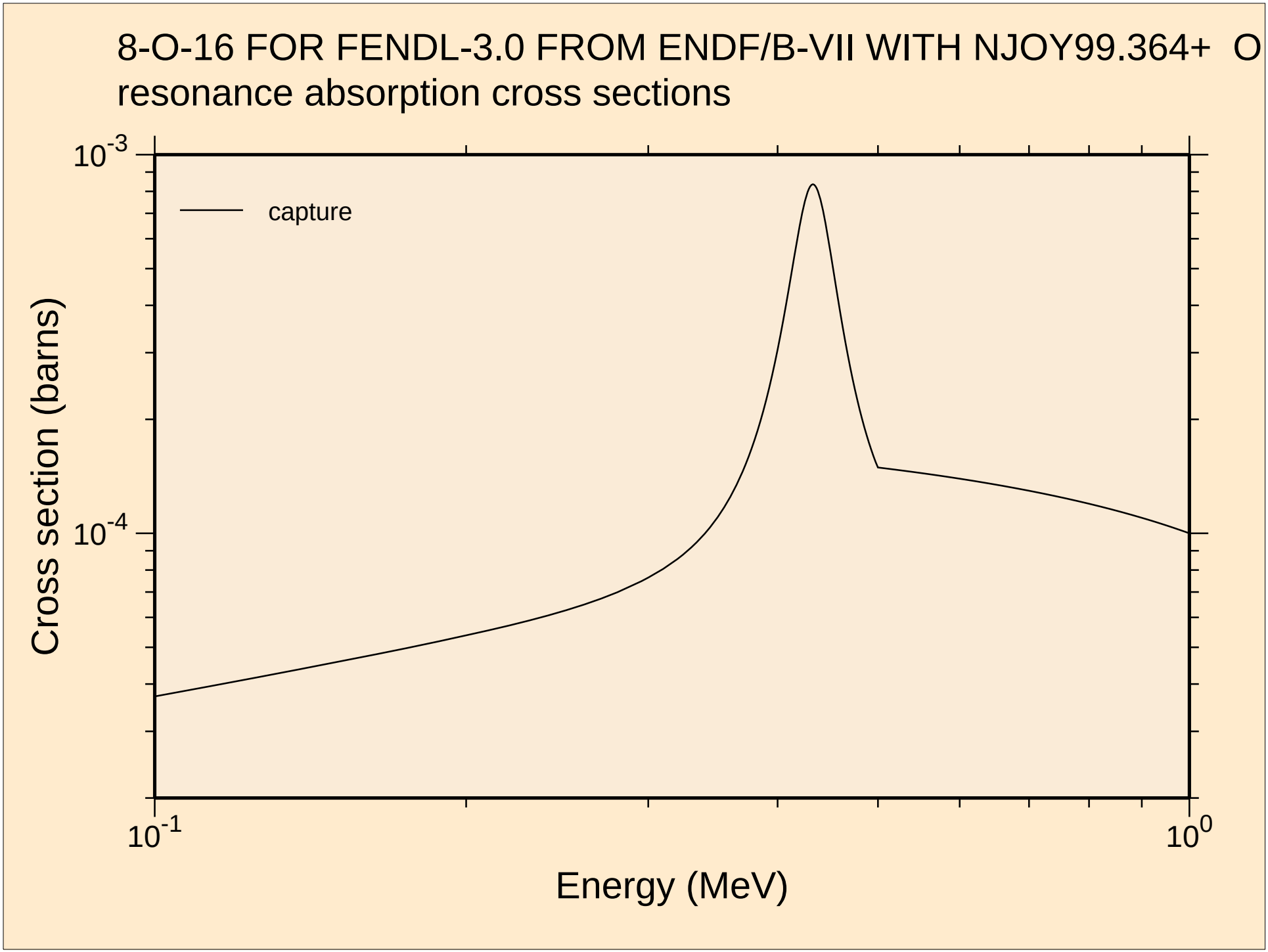
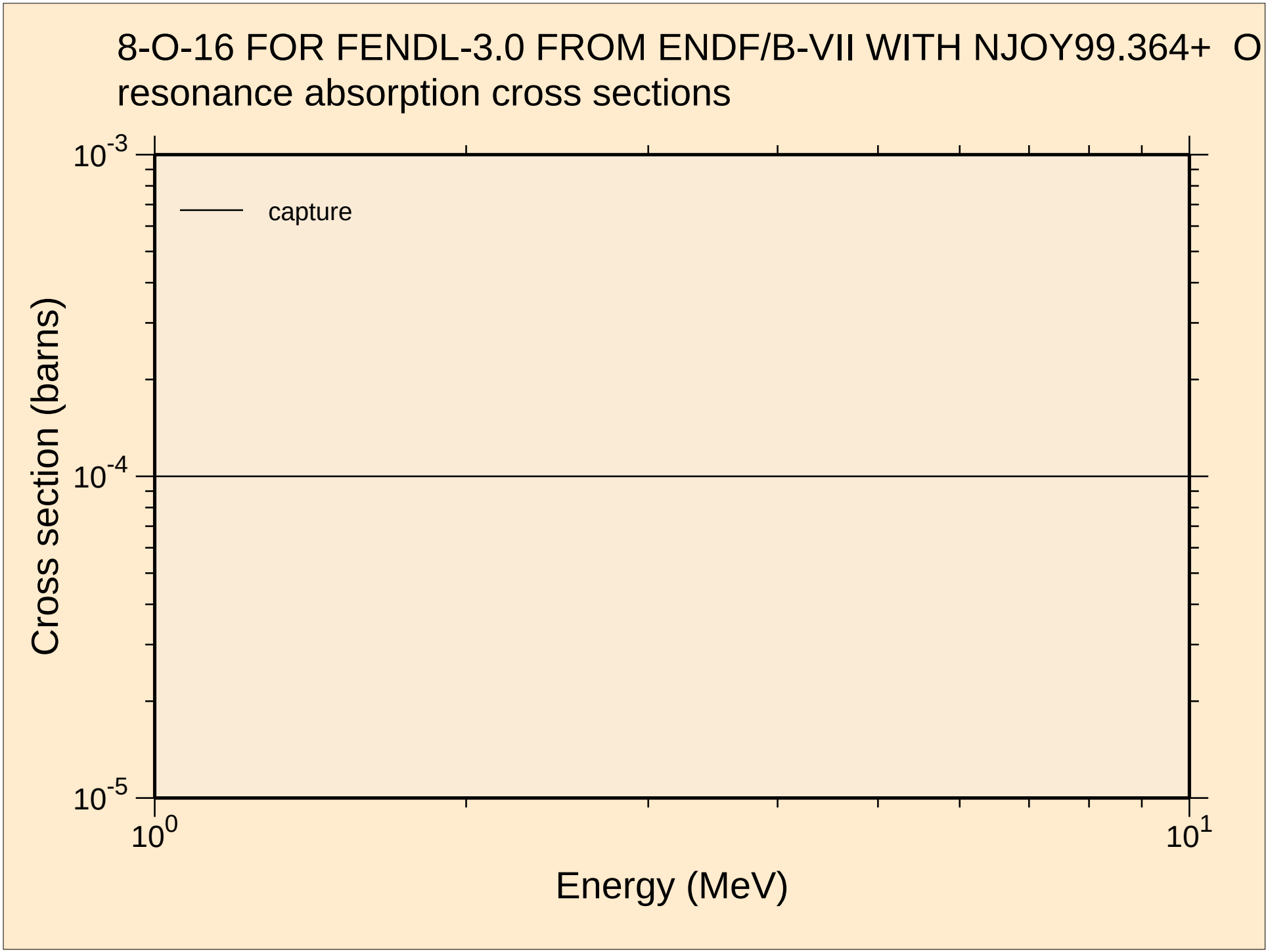
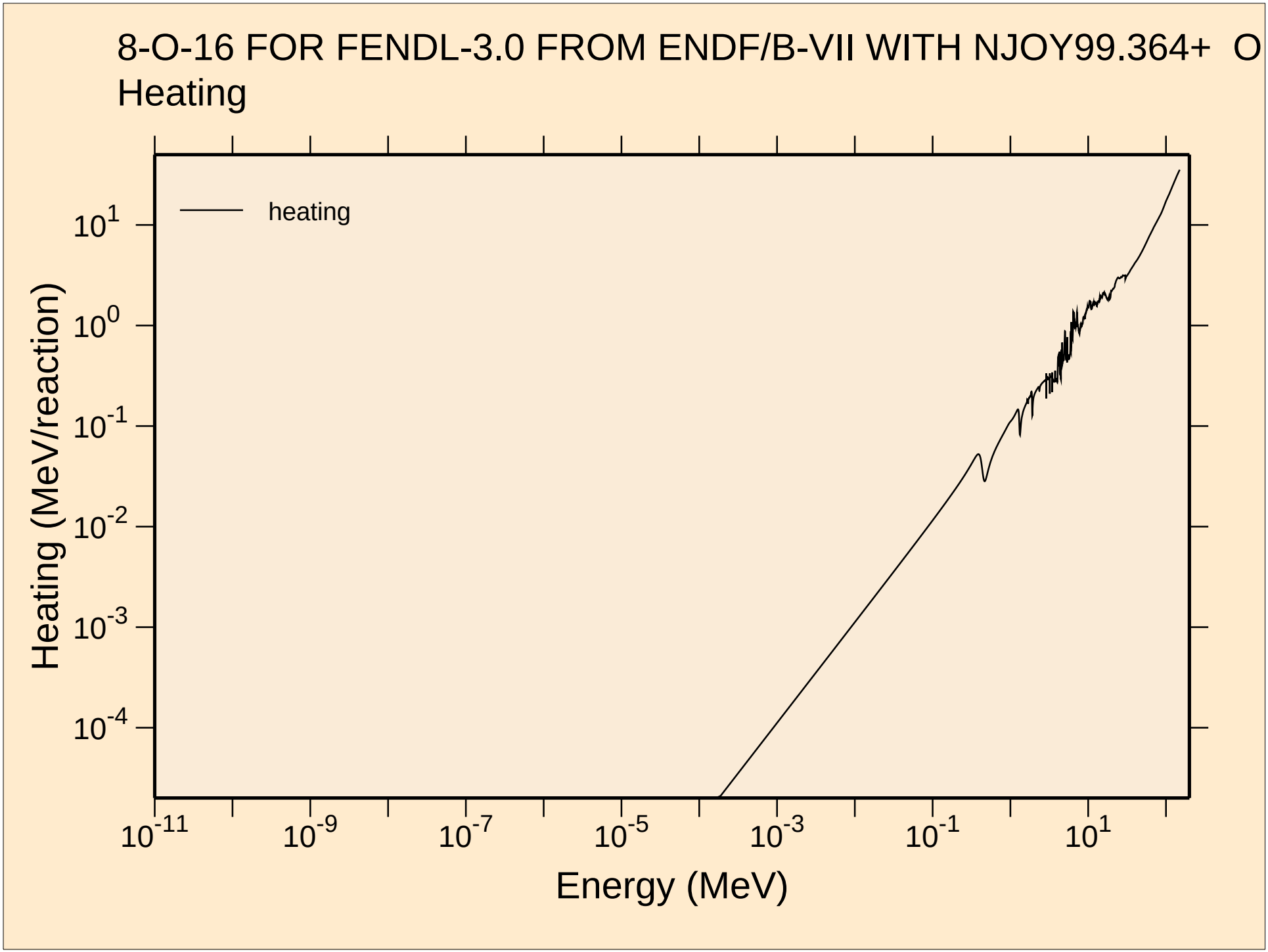
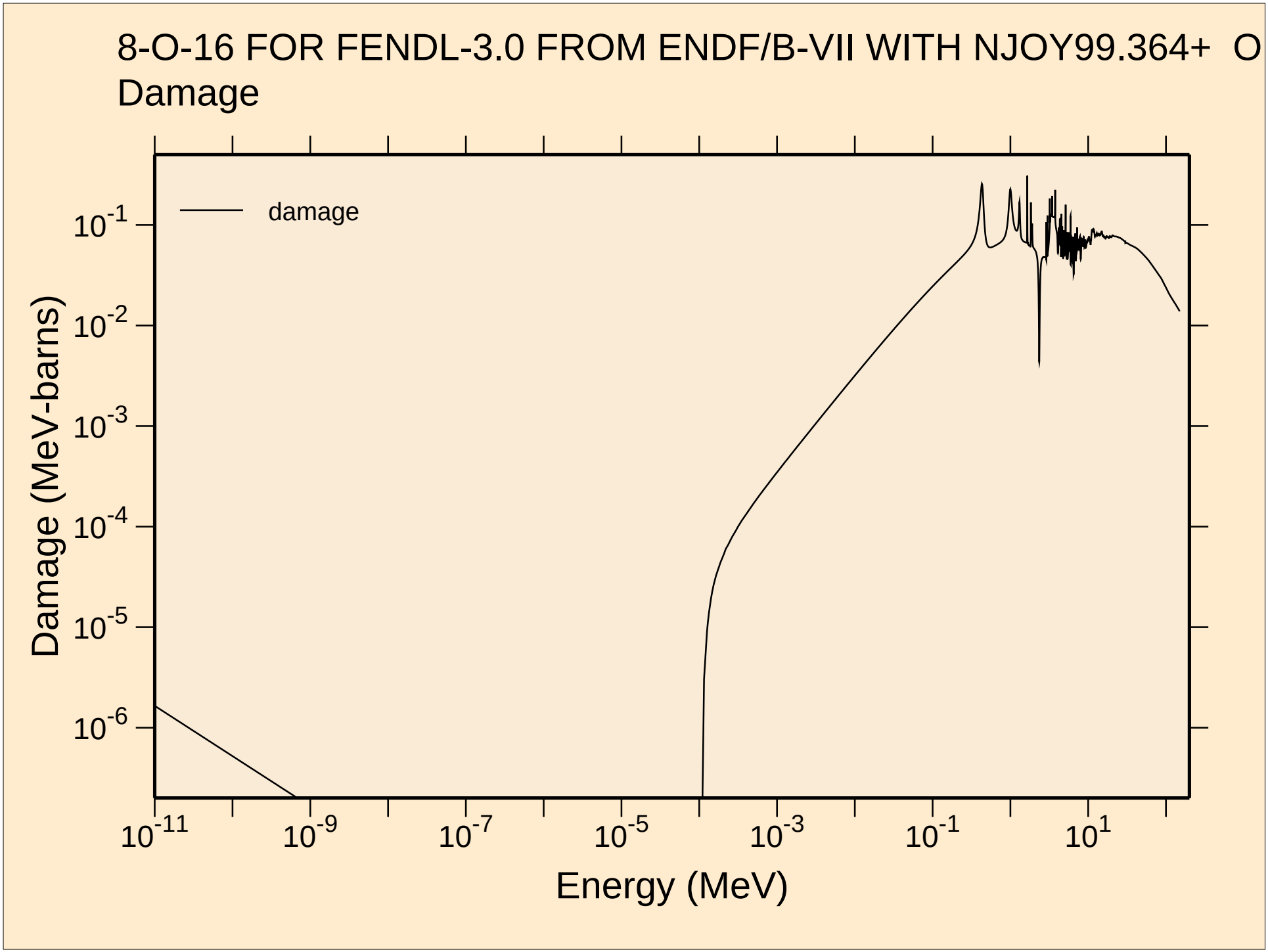

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Principal cross sections
Cross section (barns)
Energy (MeV)
total
absorption
elastic
gamma production

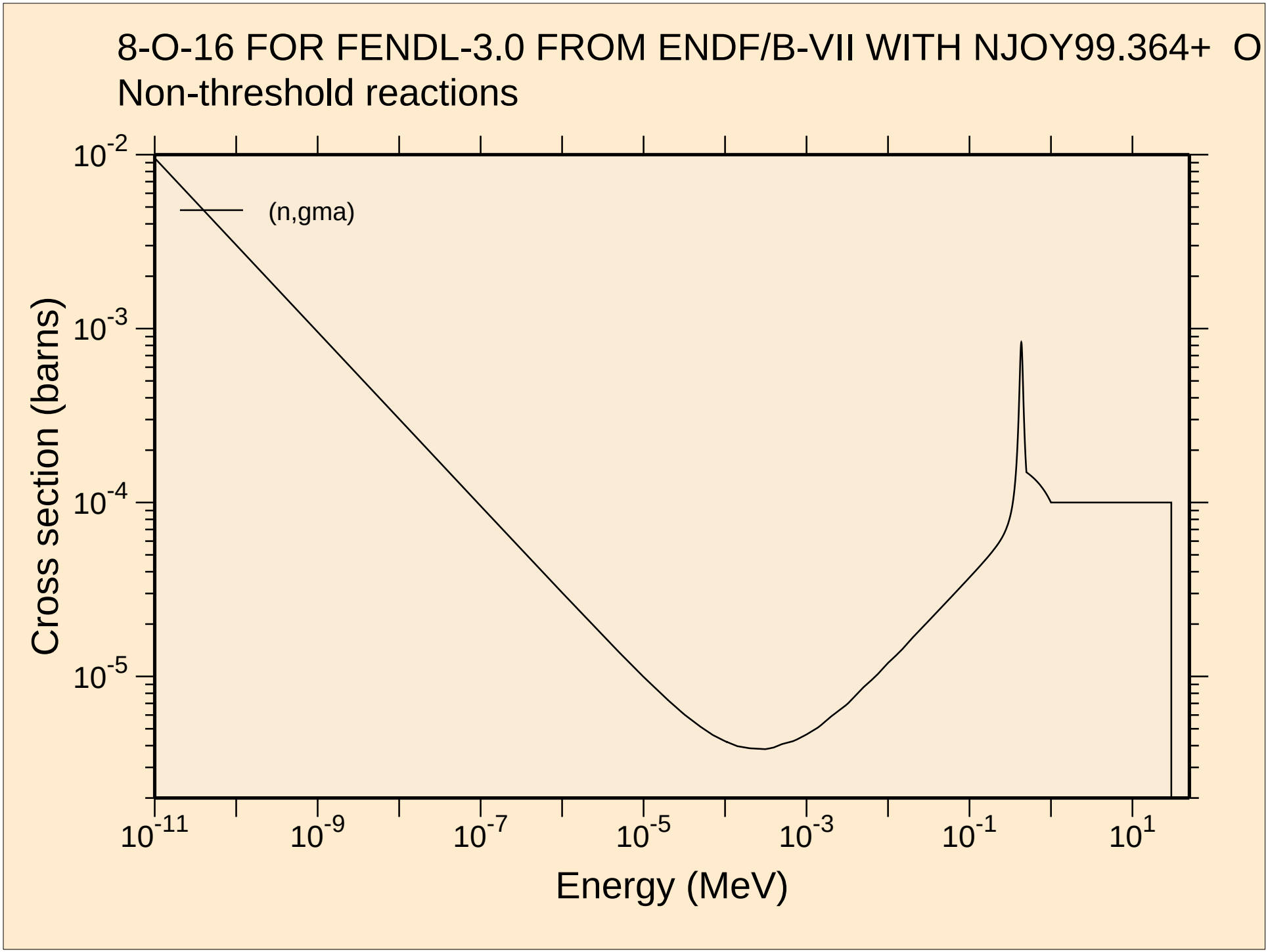

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
resonance total cross section
total
Cross section (barns)
Energy (MeV)
10^1
10^0
10^-1
10^0
10^1

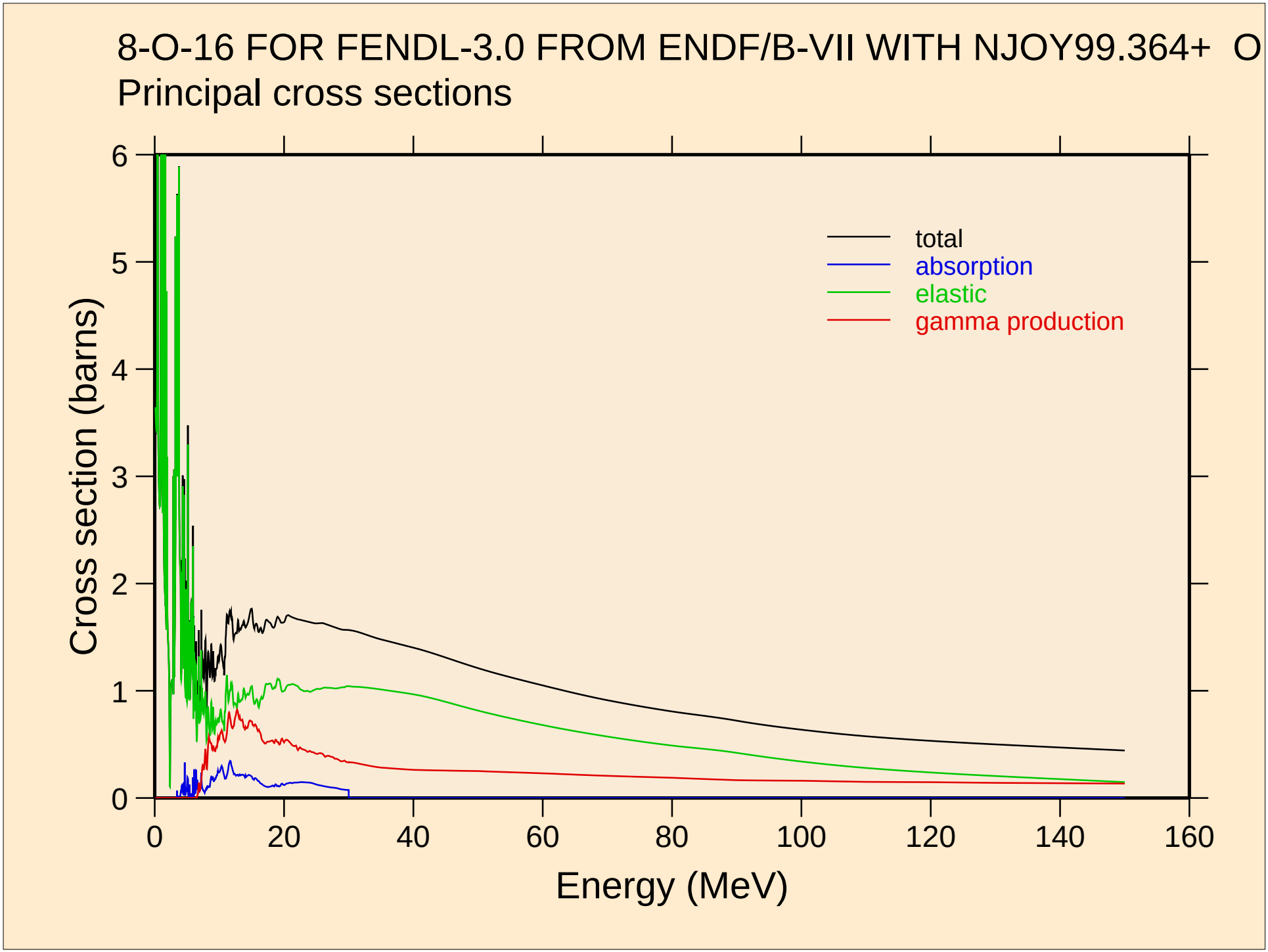

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
resonance absorption cross sections
capture
Cross section (barns)
10-3
10-4
10-1
100
Energy (MeV)

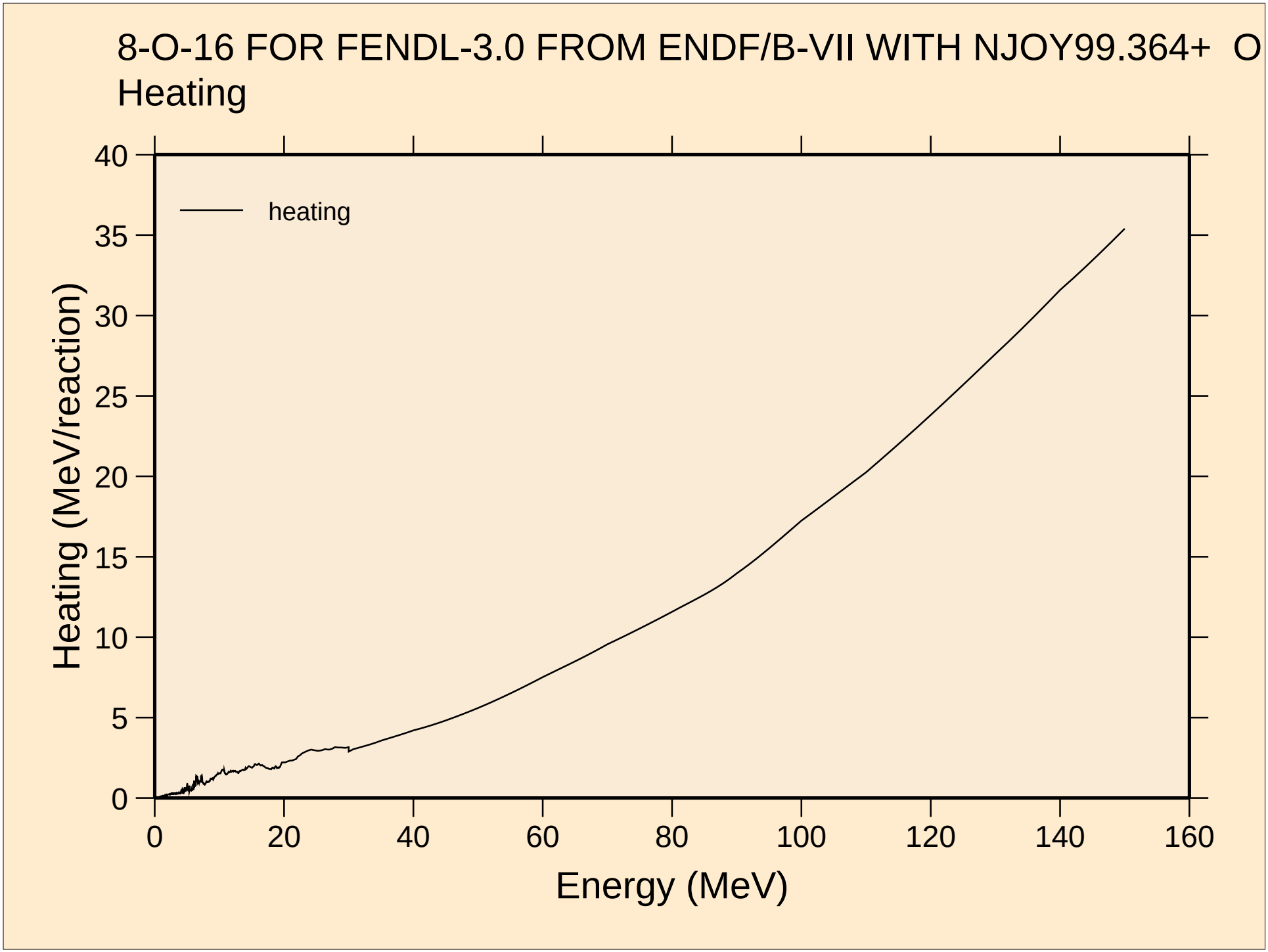

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
resonance absorption cross sections
capture
Cross section (barns)
10-3
10-4
10-5
100
101
Energy (MeV)

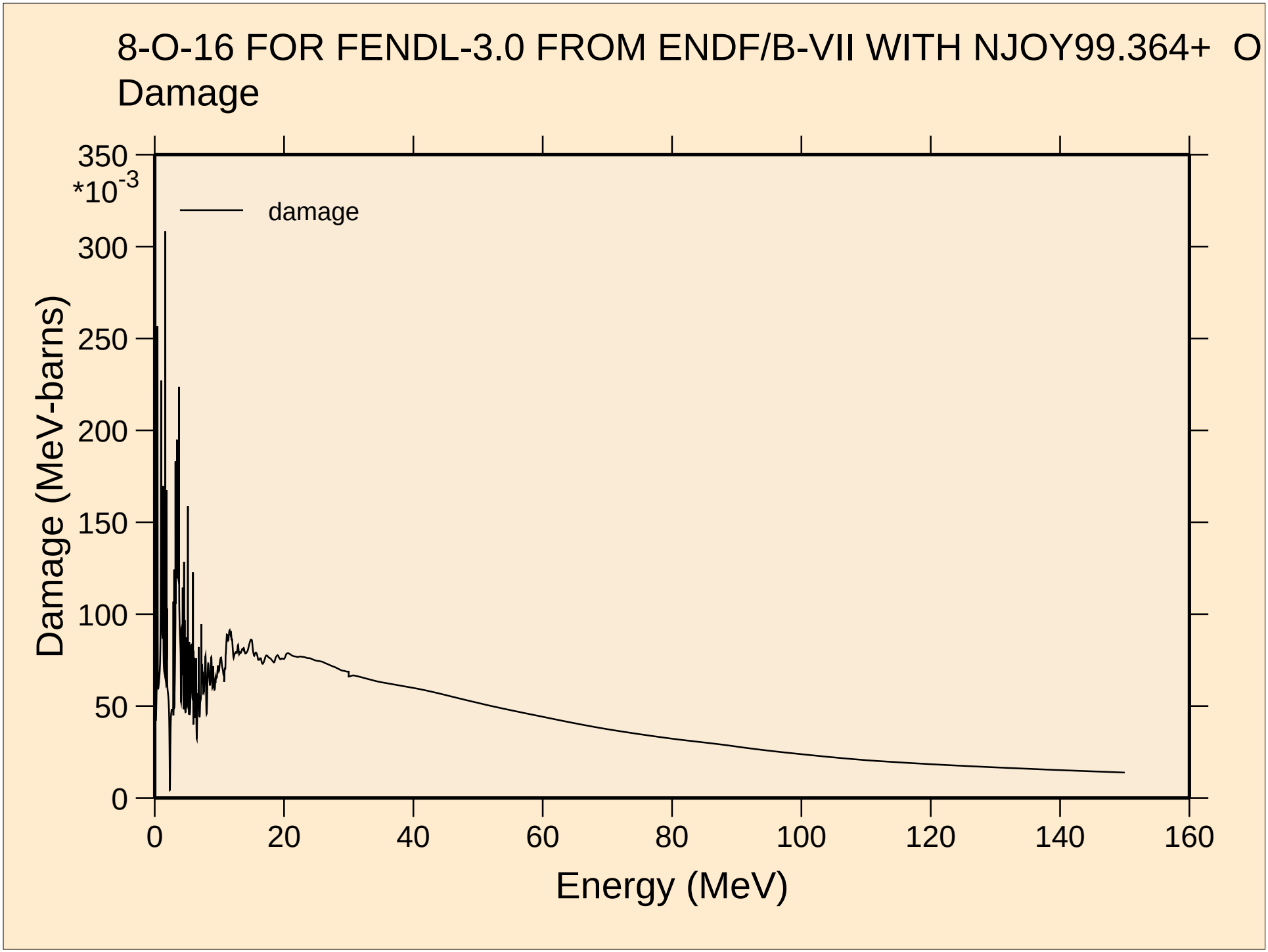

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Heating
heating
Heating (MeV/reaction)
10^{1}
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-11}
10^{-9}
10^{-7}
10^{-5}
10^{-3}
10^{-1}
10^{1}
Energy (MeV)

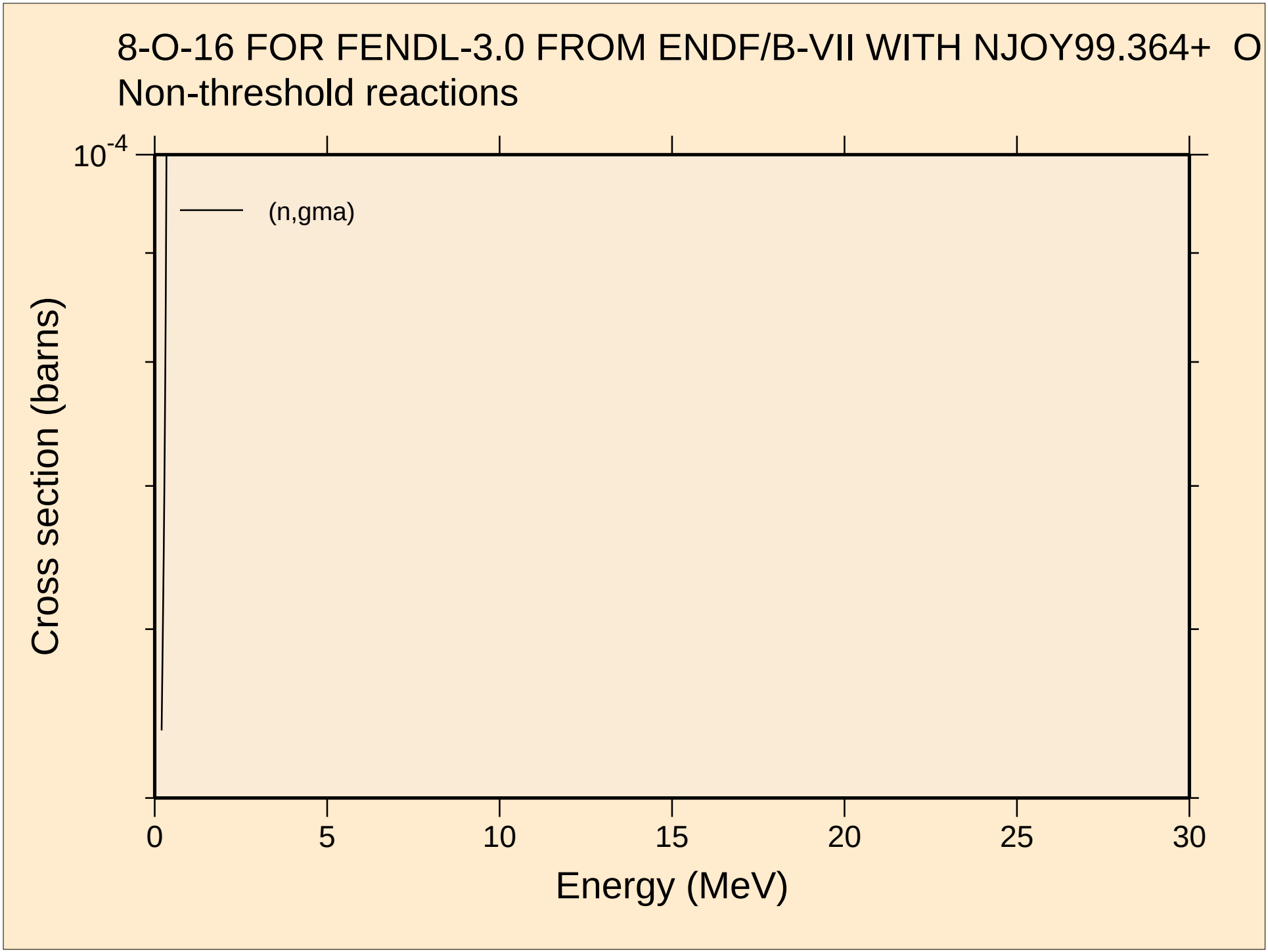

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Damage
damage
Damage (MeV-barns)
10-1
10-2
10-3
10-4
10-5
10-6
10-11
10-9
10-7
10-5
10-3
10-1
101
Energy (MeV)

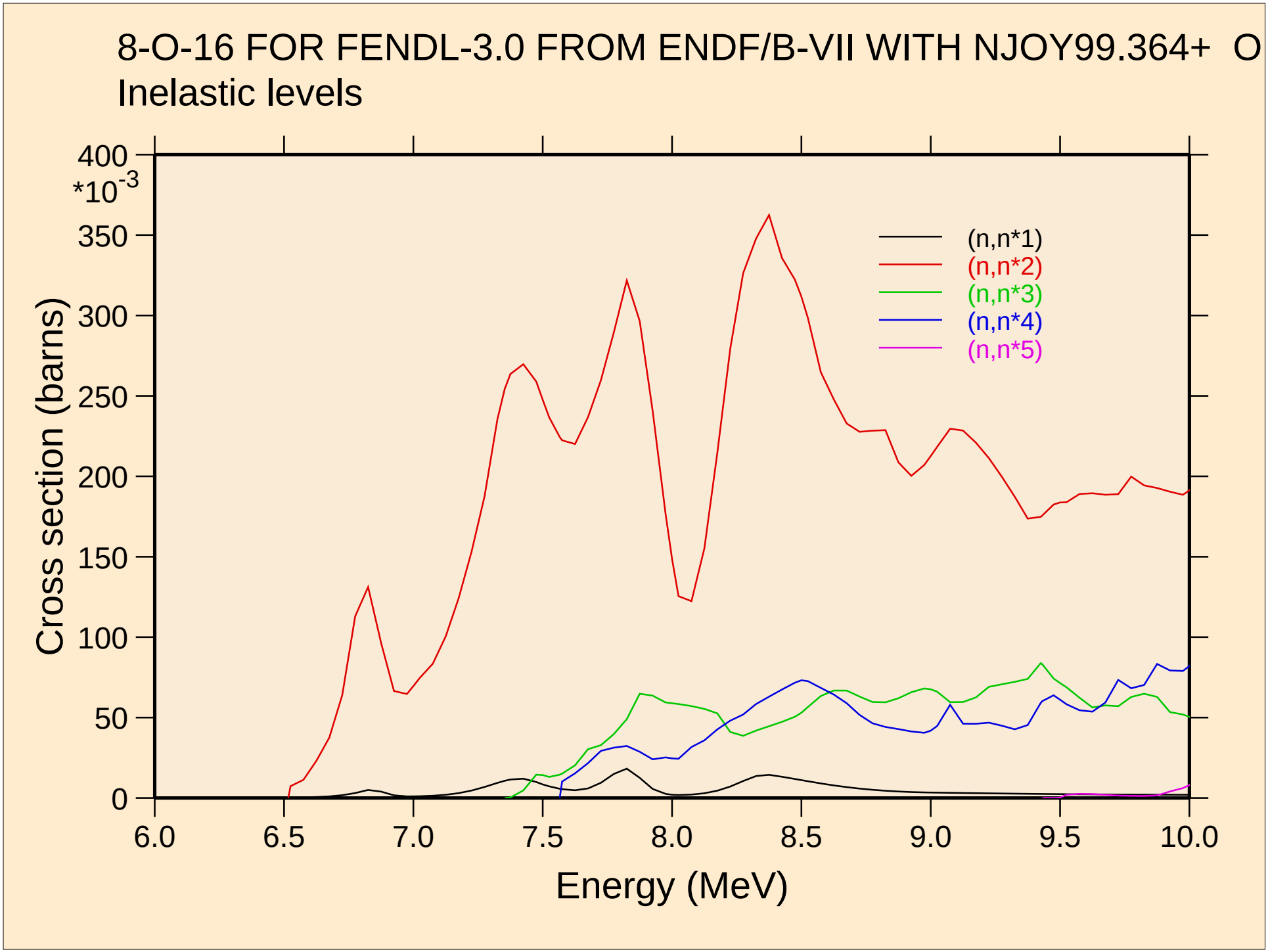

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Non-threshold reactions
(n,gma)
Cross section (barns)
10-2
10-3
10-4
10-5
10-11
10-9
10-7
10-5
10-3
10-1
101
Energy (MeV)

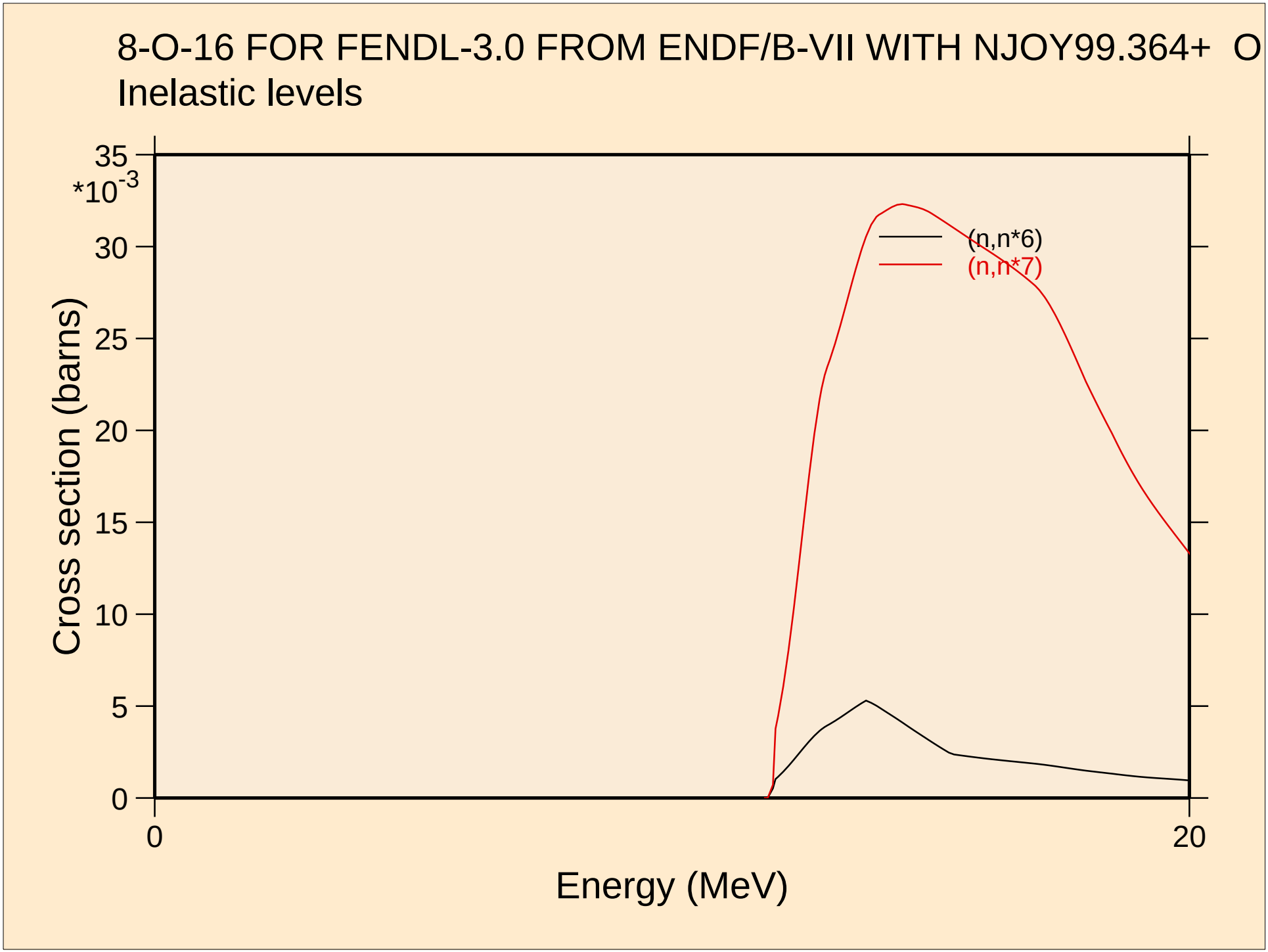

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Principal cross sections
Cross section (barns)
Energy (MeV)
0
1
2
3
4
5
6
0
20
40
60
80
100
120
140
160
total
absorption
elastic
gamma production

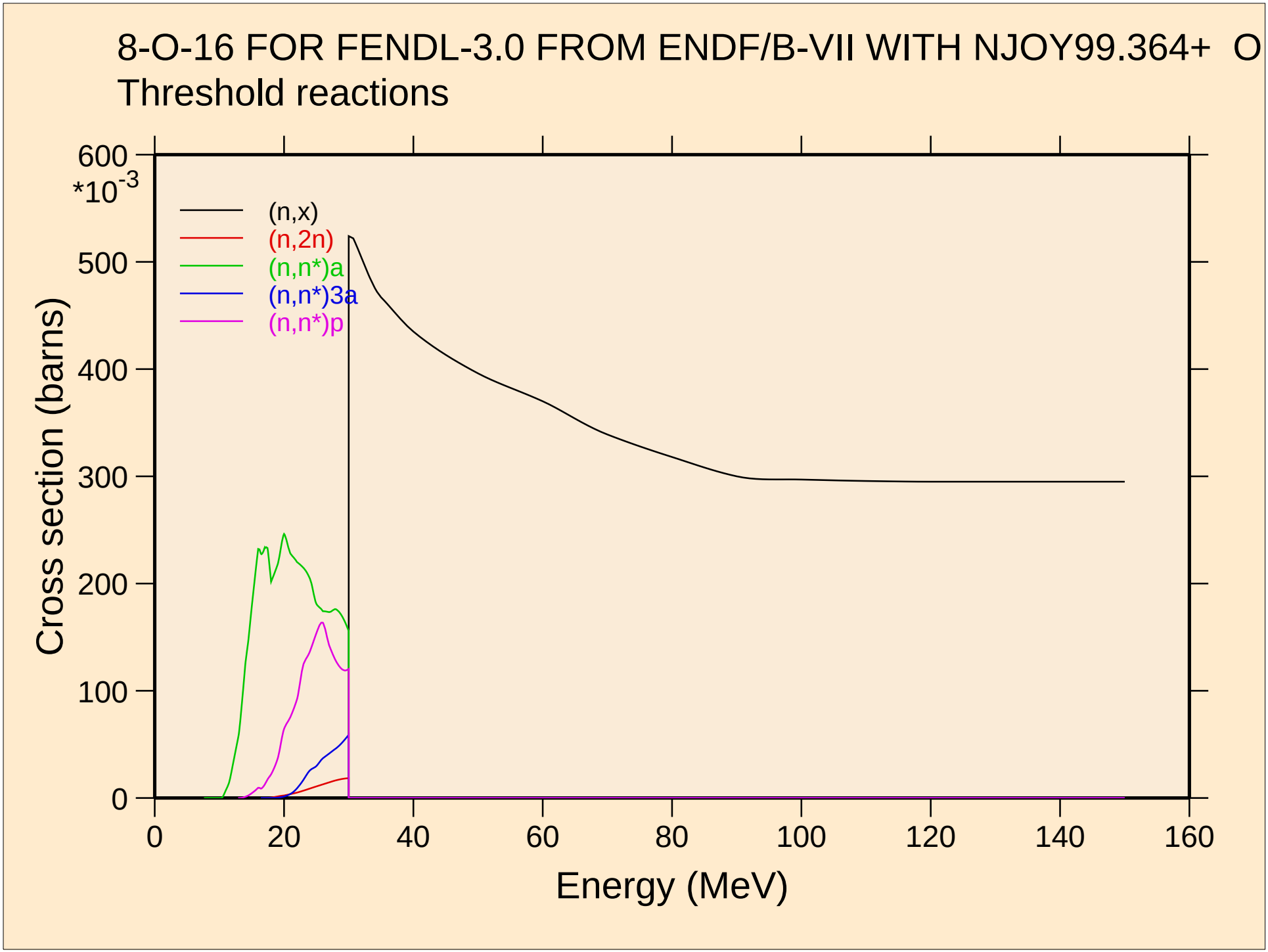

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Heating
heating
Heating (MeV/reaction)
Energy (MeV)
0
5
10
15
20
25
30
35
40
0
20
40
60
80
100
120
140
160

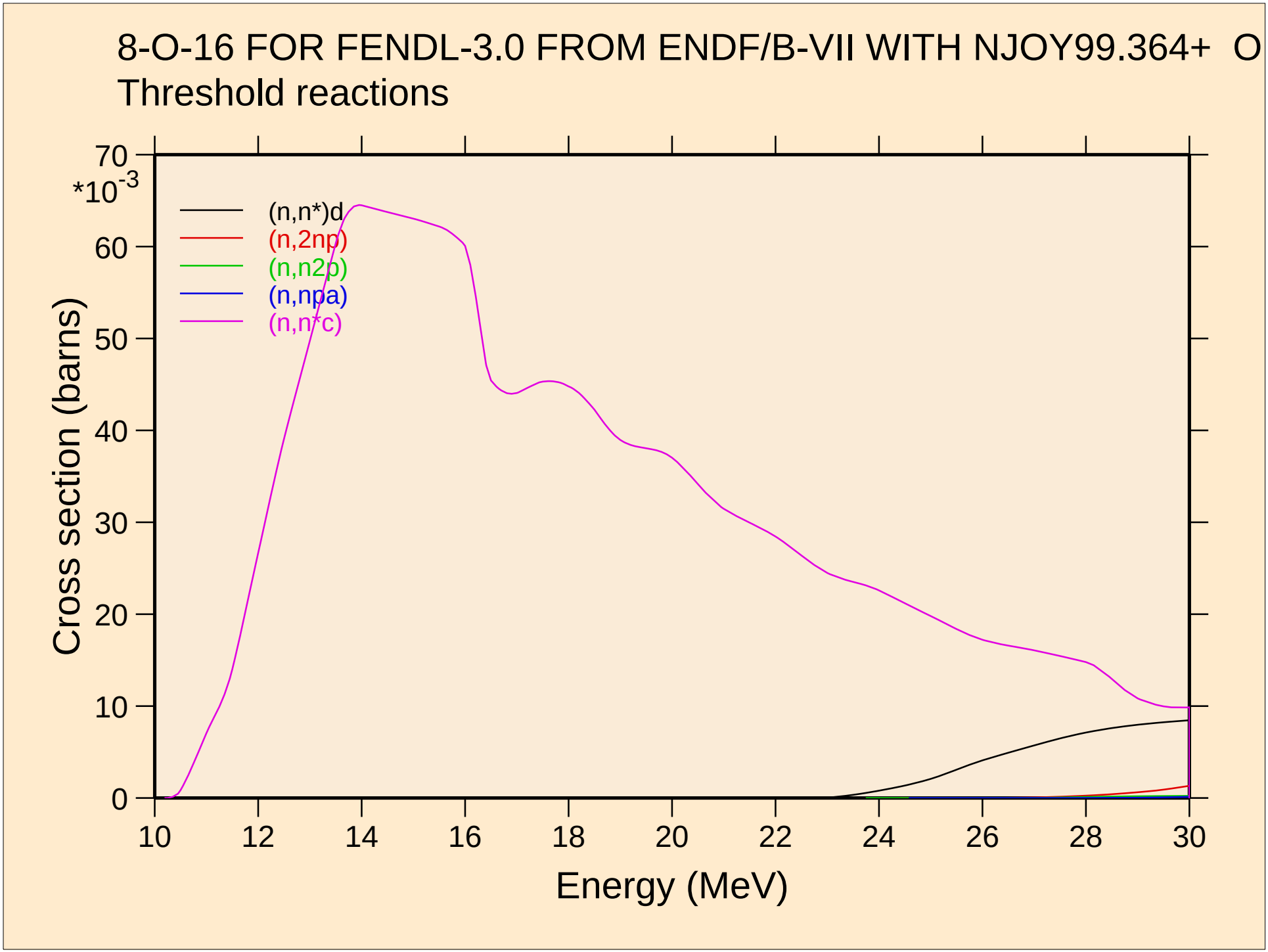

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Damage
damage
*10-3
350
300
250
200
150
100
50
0
Damage (MeV-barns)
0
20
40
60
80
100
120
140
160
Energy (MeV)

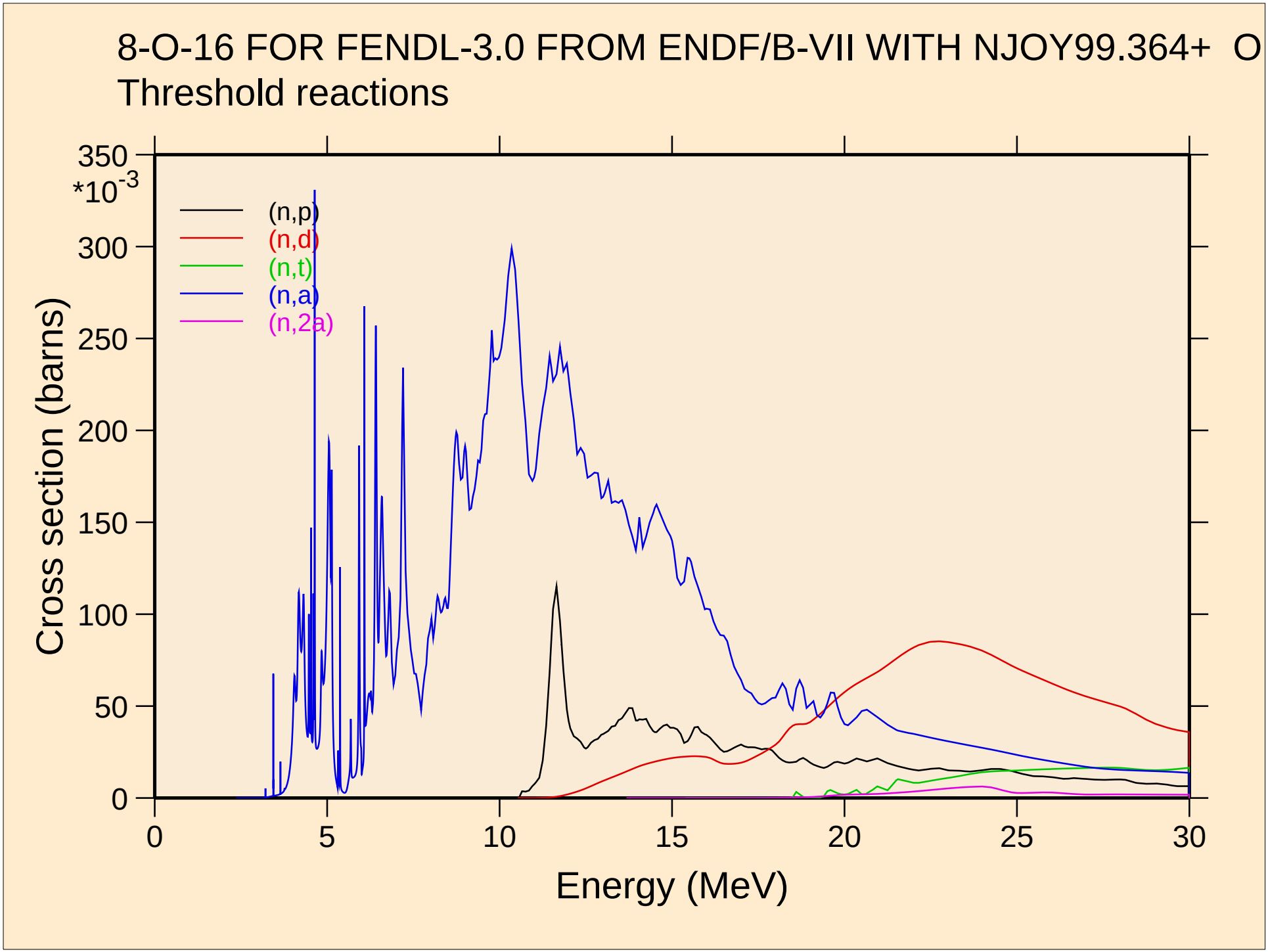

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Non-threshold reactions
10-4
(n,gma)
Cross section (barns)
0
5
10
15
20
25
30
Energy (MeV)

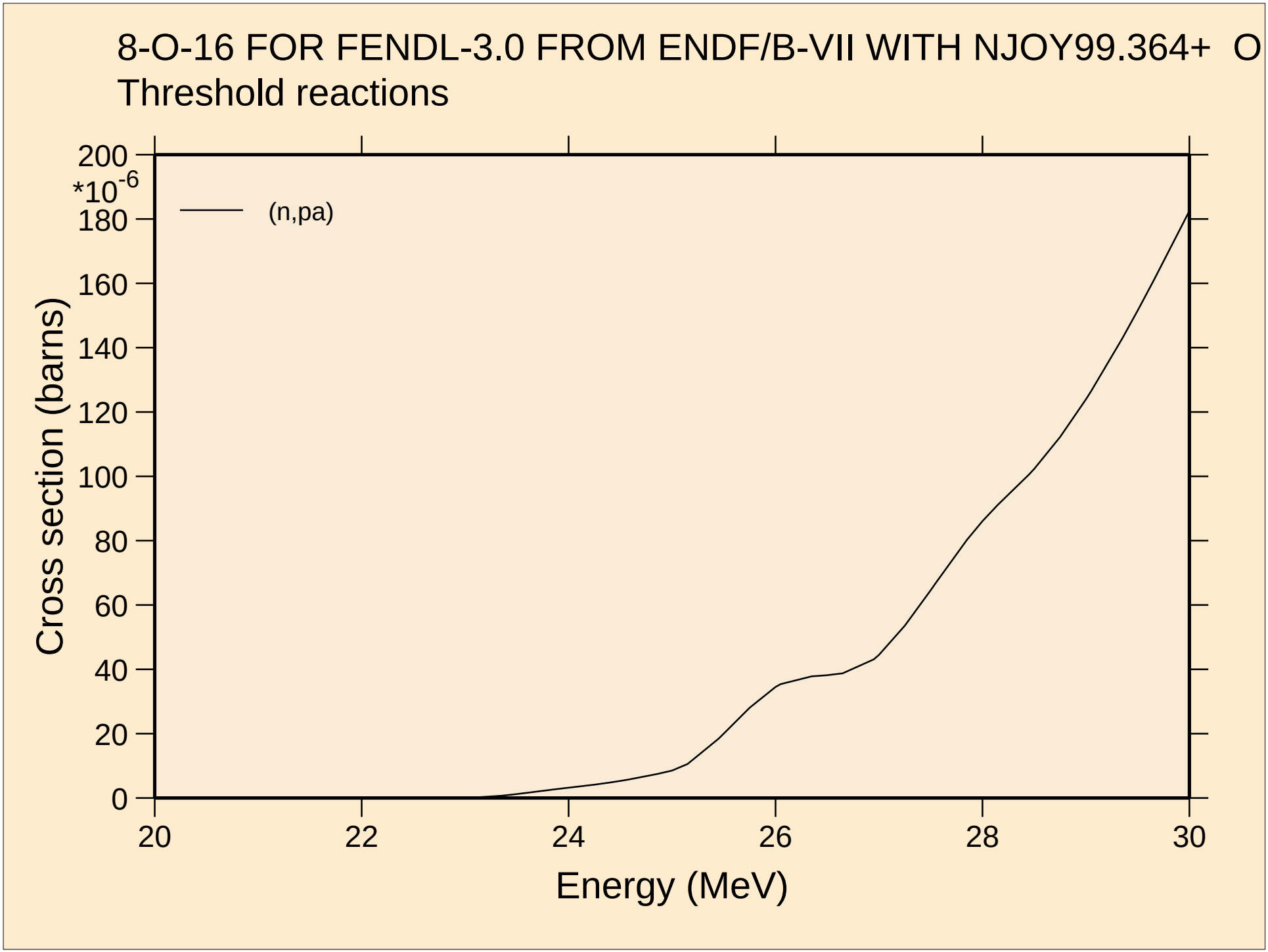

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Inelastic levels
Cross section (barns)
*10-3
400
350
300
250
200
150
100
50
0
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
10.0
Energy (MeV)
(n,n*1)
(n,n*2)
(n,n*3)
(n,n*4)
(n,n*5)

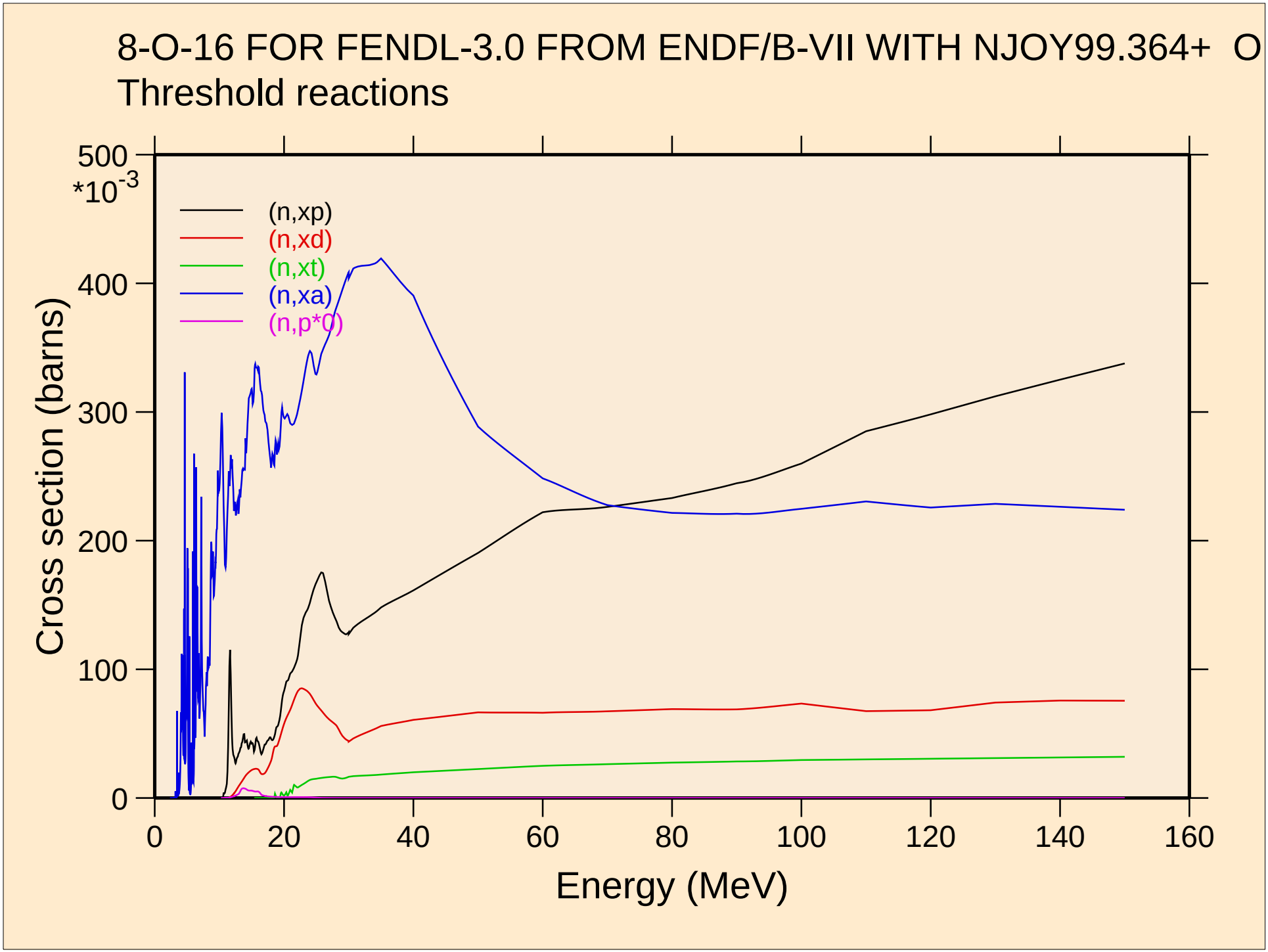

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Inelastic levels
35
*10-3
30
25
20
15
10
5
0
Cross section (barns)
0
20
Energy (MeV)
(n,n*6)
(n,n*7)

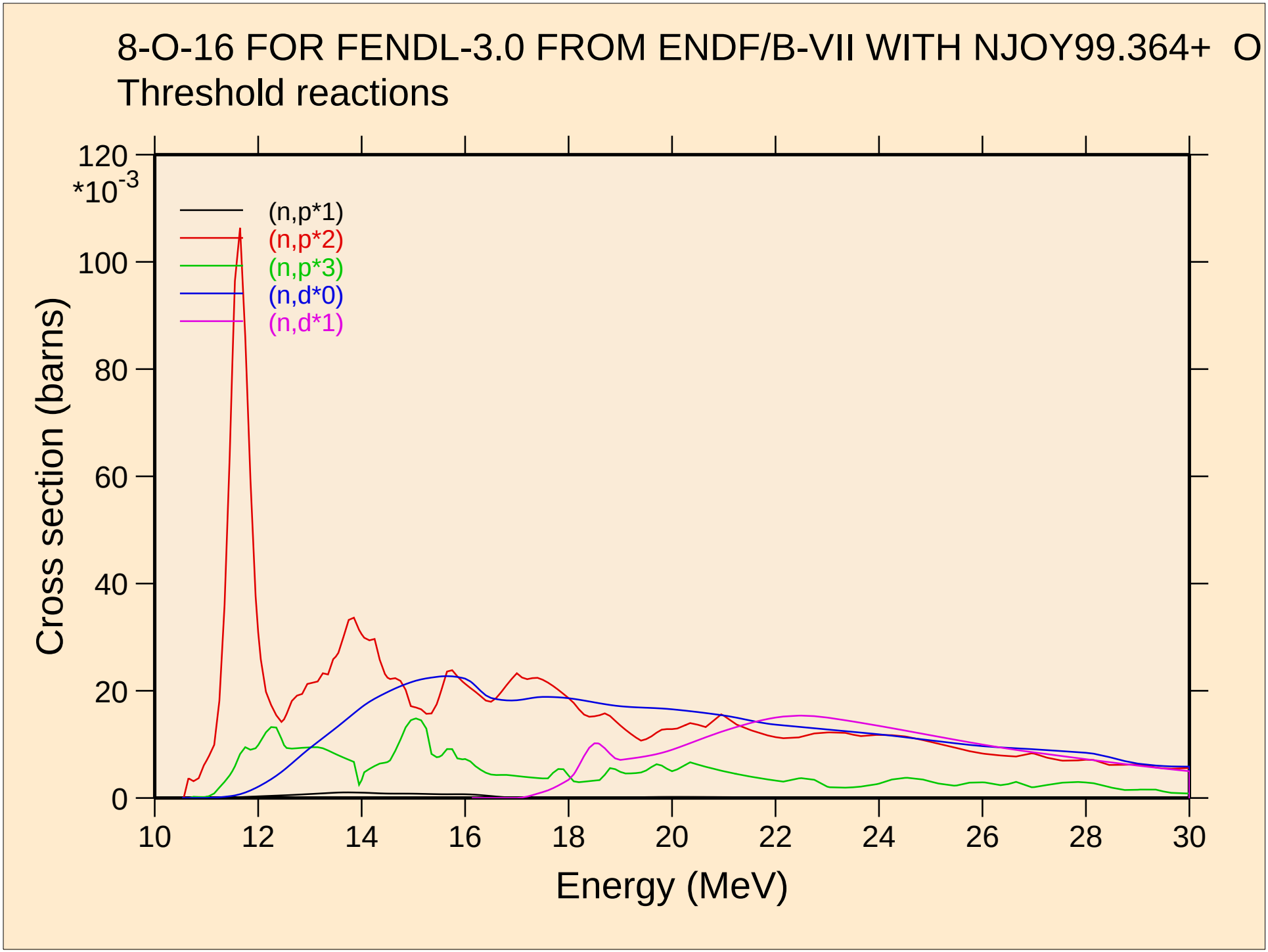

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
600
*10-3
500
400
300
200
100
0
Cross section (barns)
(n,x)
(n,2n)
(n,n*)a
(n,n*)3a
(n,n*)p
0
20
40
60
80
100
120
140
160
Energy (MeV)

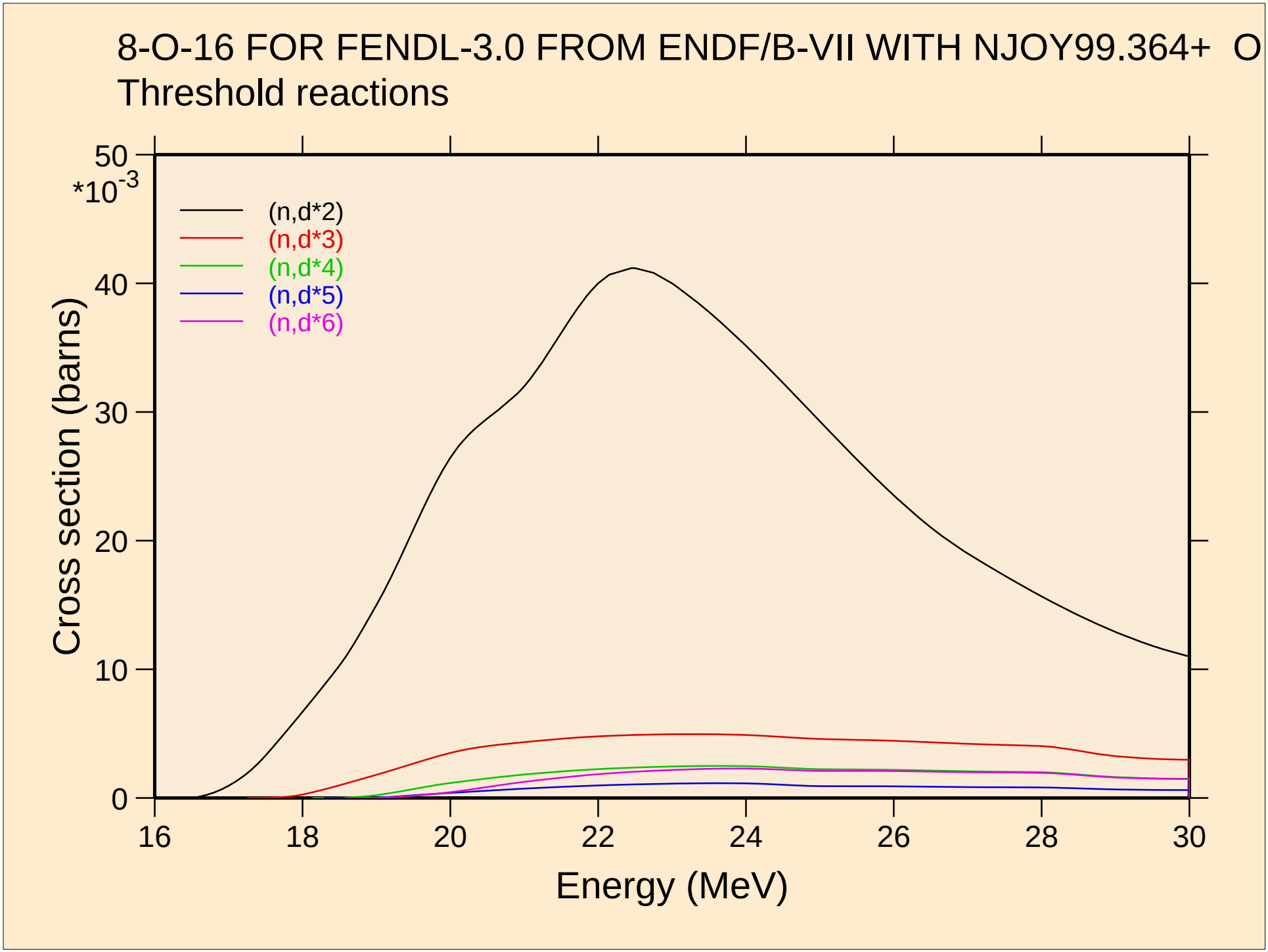

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
*10-3
70
60
50
40
30
20
10
0
Cross section (barns)
(n,n*)d
(n,2np)
(n,n2p)
(n,npa)
(n,n*c)
10
12
14
16
18
20
22
24
26
28
30
Energy (MeV)

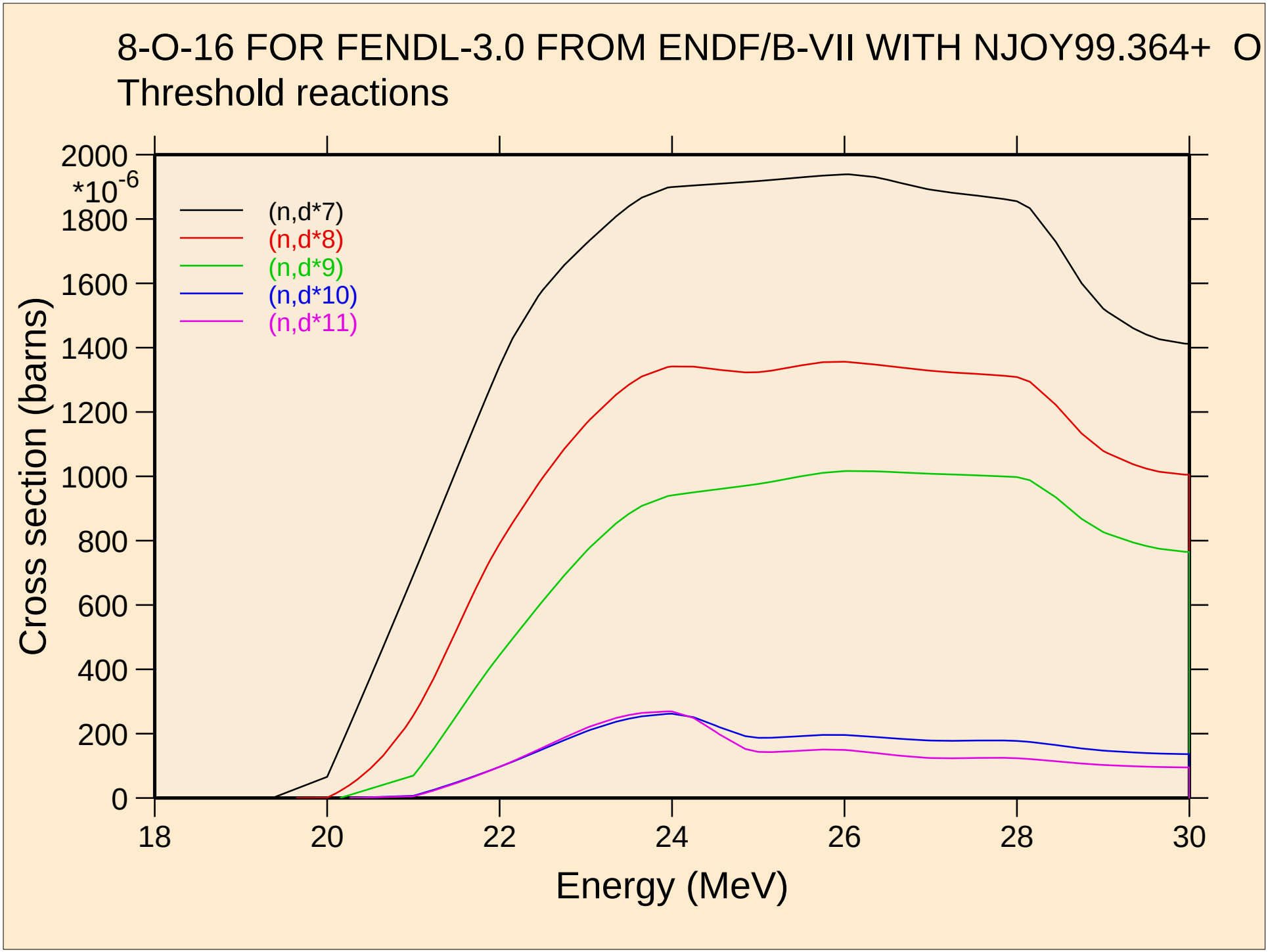

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
*10-3
Cross section (barns)
Energy (MeV)
(n,p)
(n,d)
(n,t)
(n,a)
(n,2a)
0
50
100
150
200
250
300
350
0
5
10
15
20
25
30

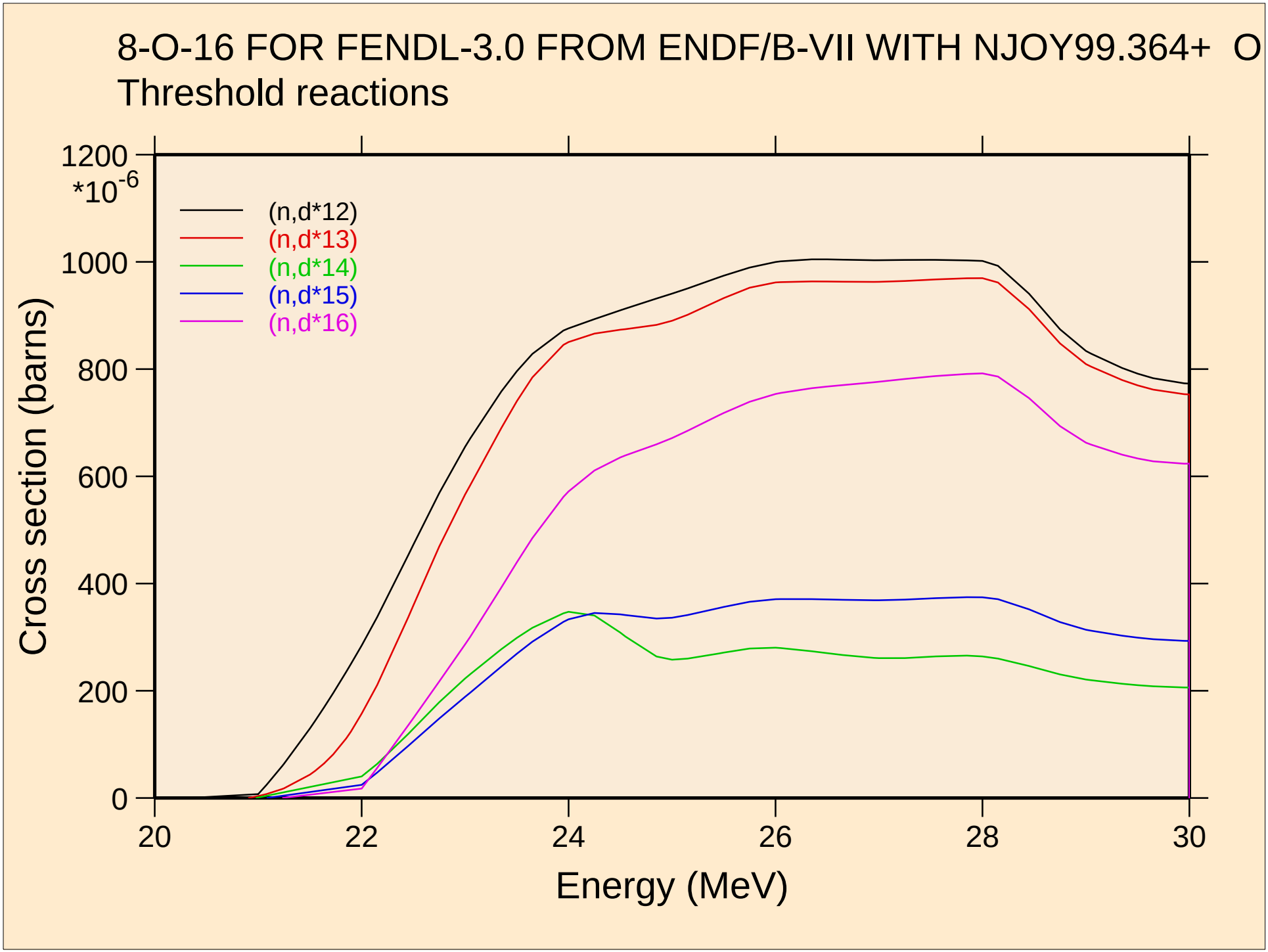

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
*10-6
(n,pa)
Cross section (barns)
200
180
160
140
120
100
80
60
40
20
0
20
22
24
26
28
30
Energy (MeV)

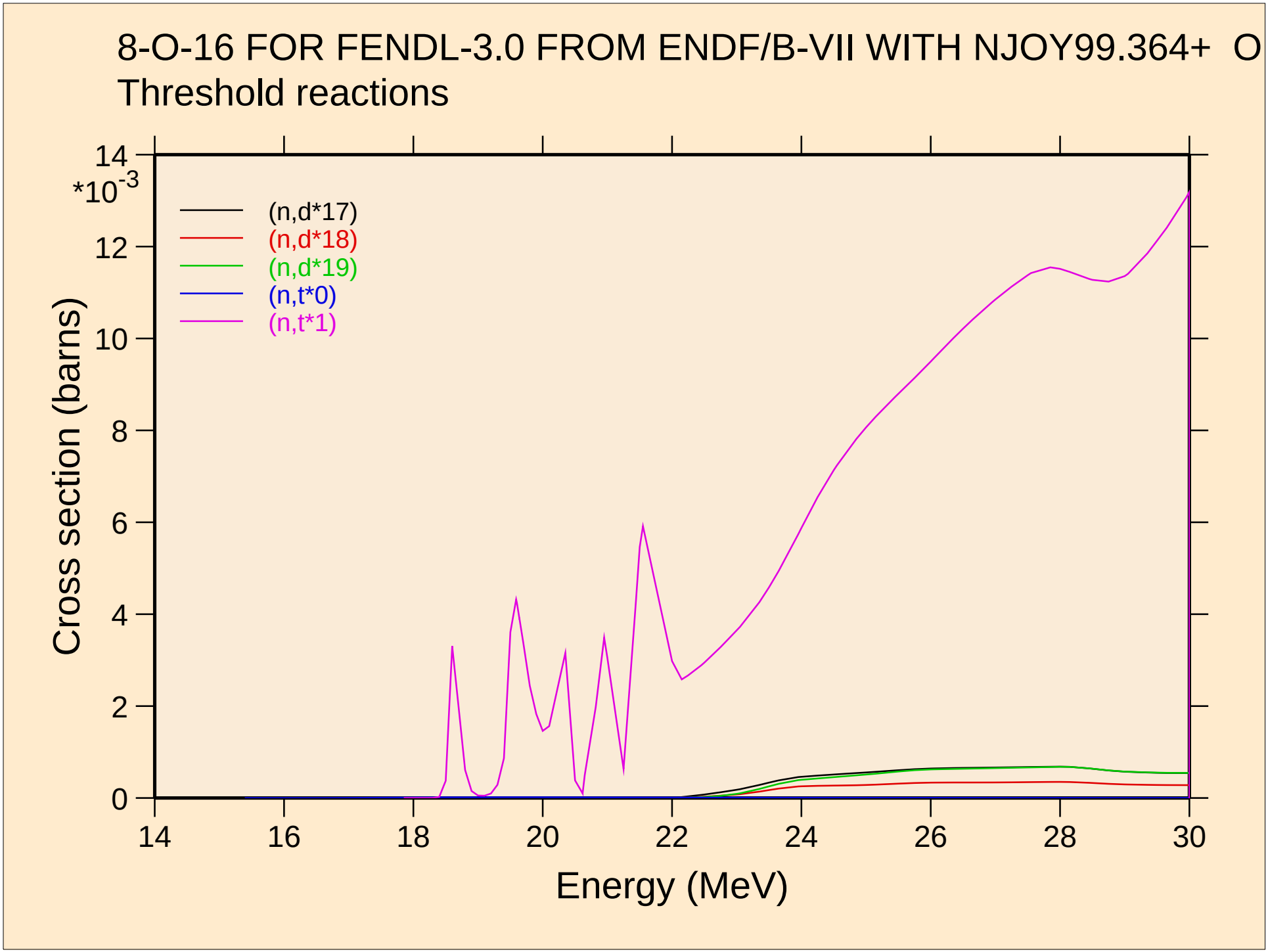

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
500
*10-3
400
300
200
100
0
Cross section (barns)
(n,xp)
(n,xd)
(n,xt)
(n,xa)
(n,p*0)
0
20
40
60
80
100
120
140
160
Energy (MeV)

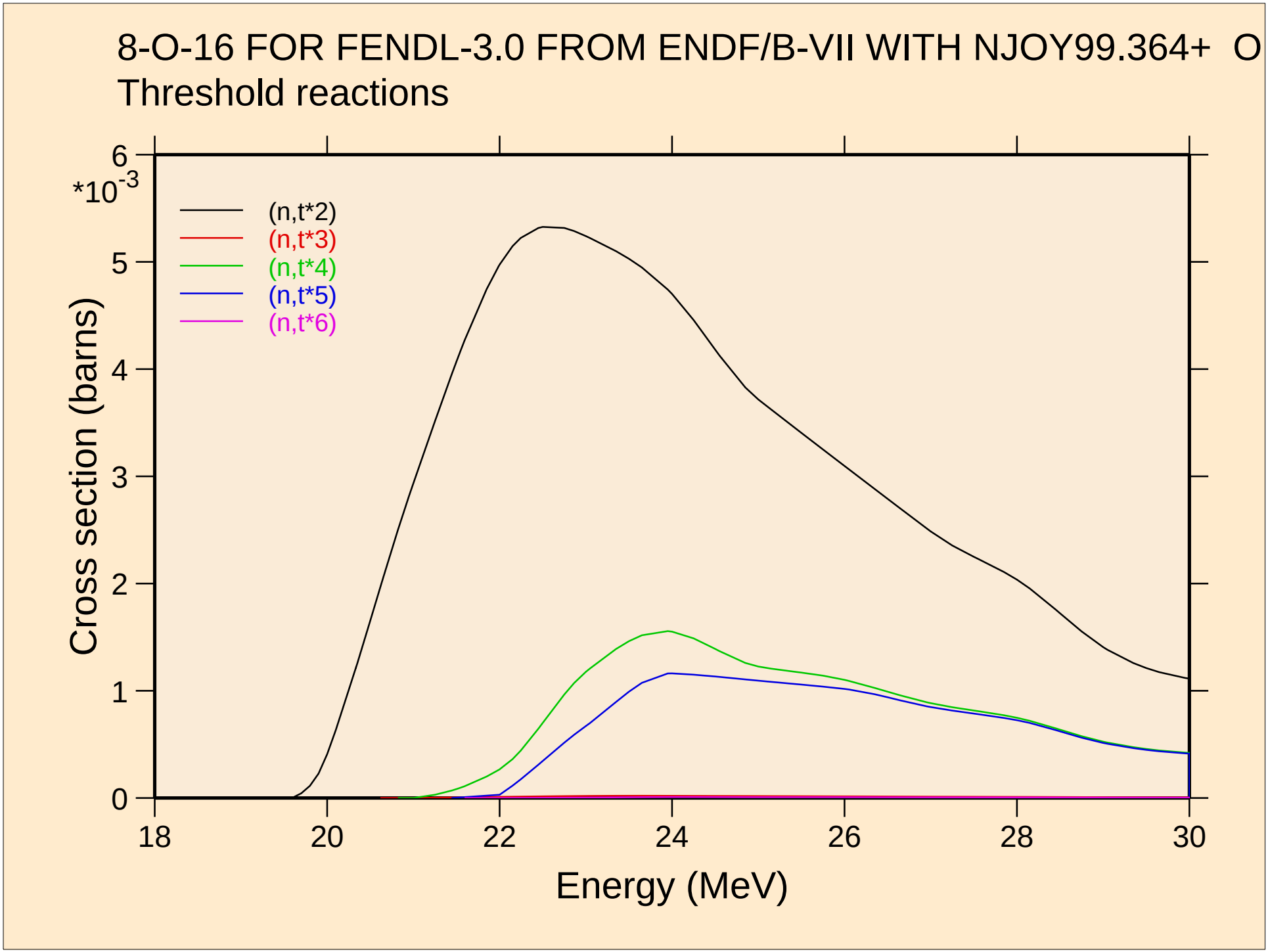

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
120
*10-3
100
80
60
40
20
0
Cross section (barns)
(n,p*1)
(n,p*2)
(n,p*3)
(n,d*0)
(n,d*1)
10
12
14
16
18
20
22
24
26
28
30
Energy (MeV)

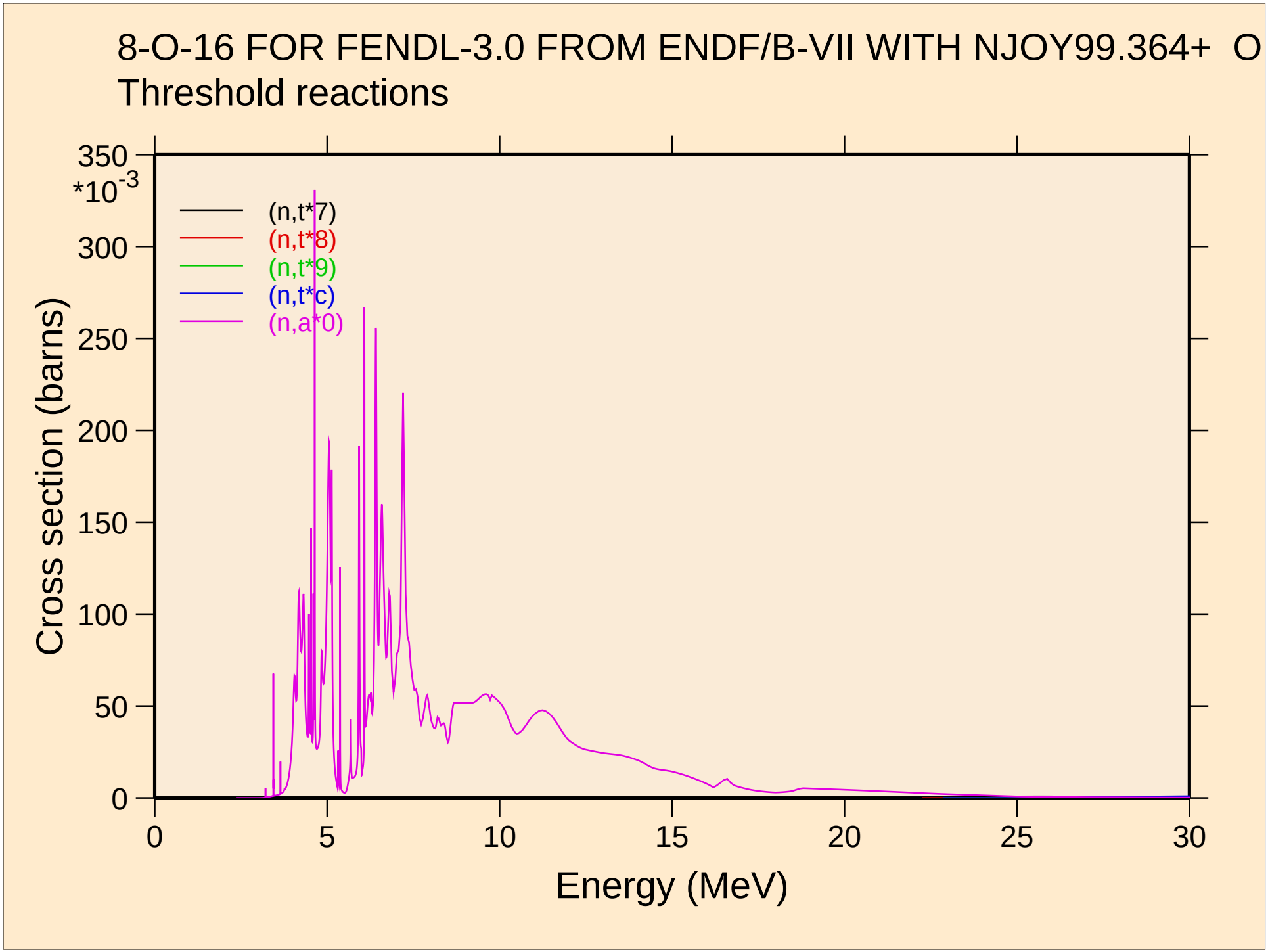

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
*10-3
50
40
30
20
10
0
Cross section (barns)
(n,d*2)
(n,d*3)
(n,d*4)
(n,d*5)
(n,d*6)
16
18
20
22
24
26
28
30
Energy (MeV)

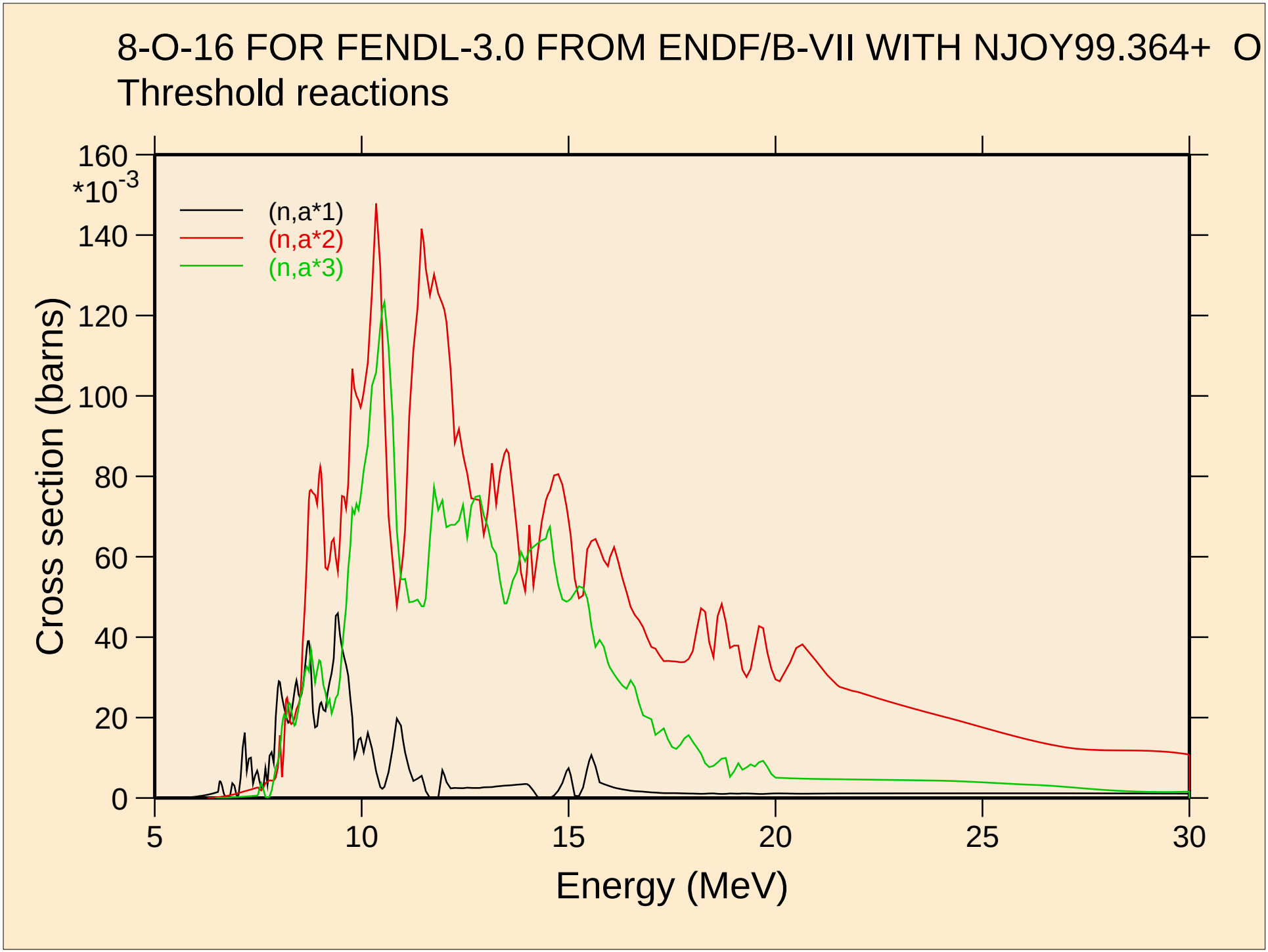

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
Cross section (barns)
*10-6
2000
1800
1600
1400
1200
1000
800
600
400
200
0
18
20
22
24
26
28
30
Energy (MeV)
(n,d*7)
(n,d*8)
(n,d*9)
(n,d*10)
(n,d*11)

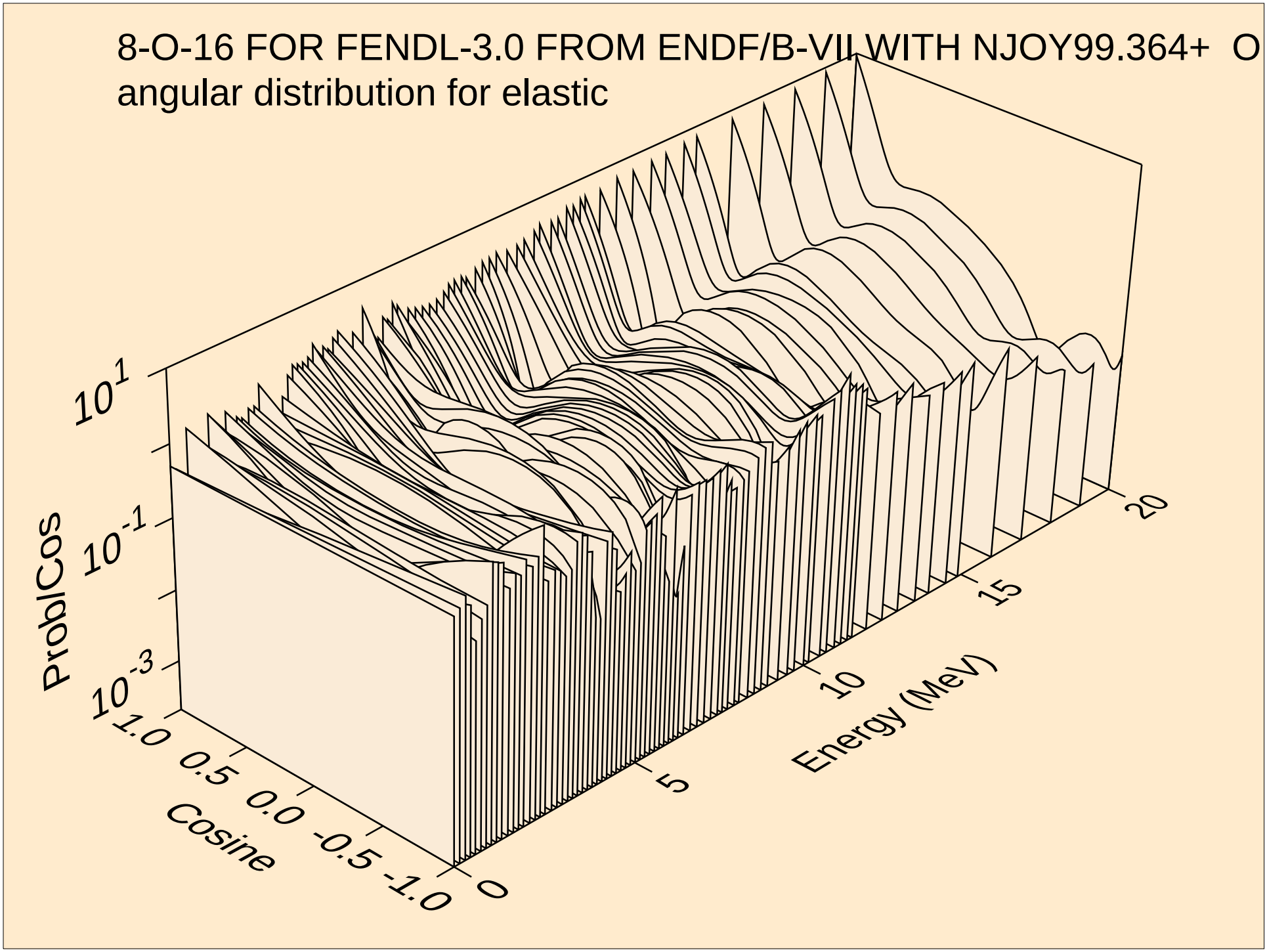

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
1200
*10-6
1000
800
600
400
200
0
Cross section (barns)
(n,d*12)
(n,d*13)
(n,d*14)
(n,d*15)
(n,d*16)
20
22
24
26
28
30
Energy (MeV)

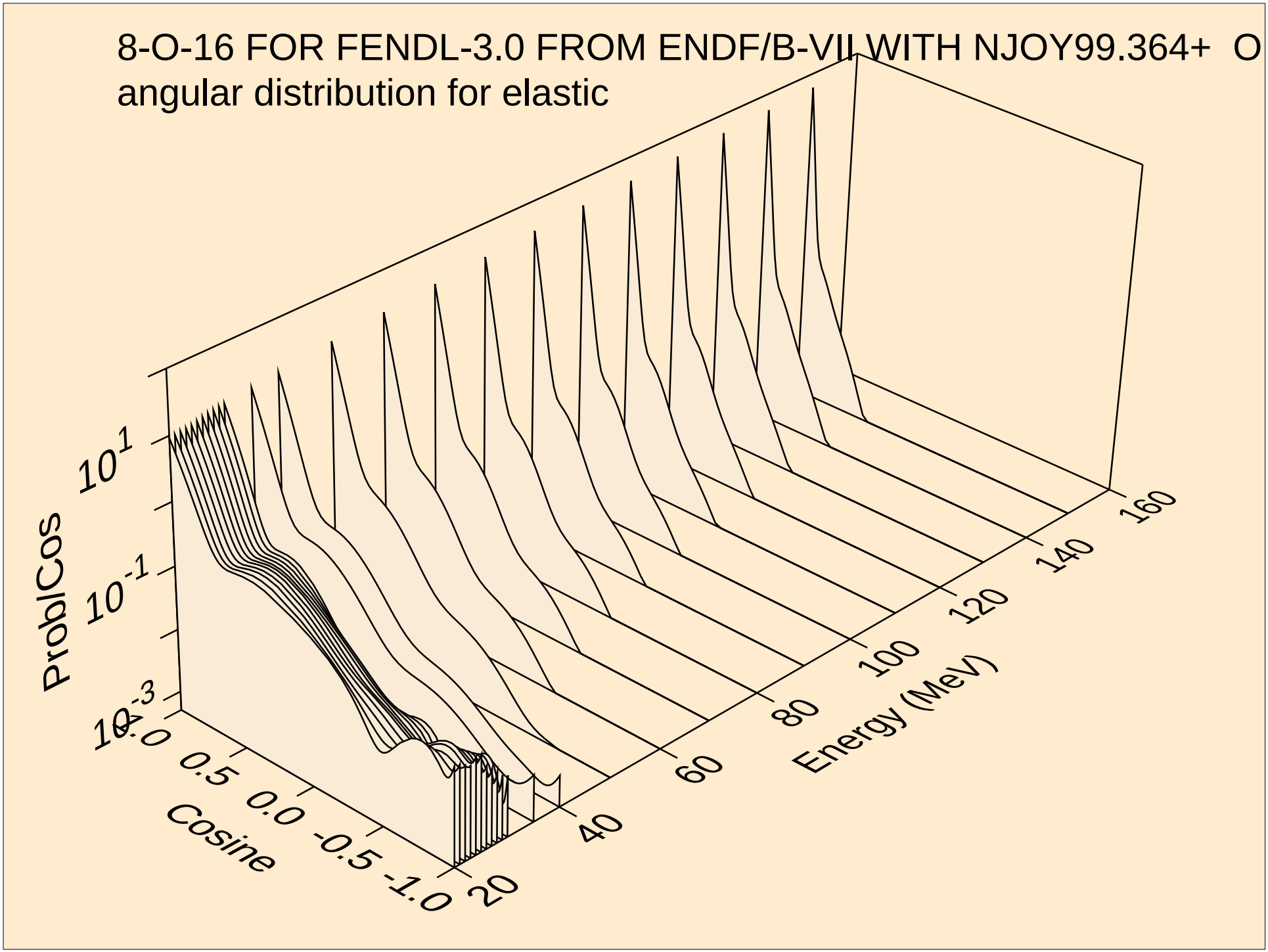

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
*10-3
Cross section (barns)
Energy (MeV)
(n,d*17)
(n,d*18)
(n,d*19)
(n,t*0)
(n,t*1)
0
2
4
6
8
10
12
14
14
16
18
20
22
24
26
28
30

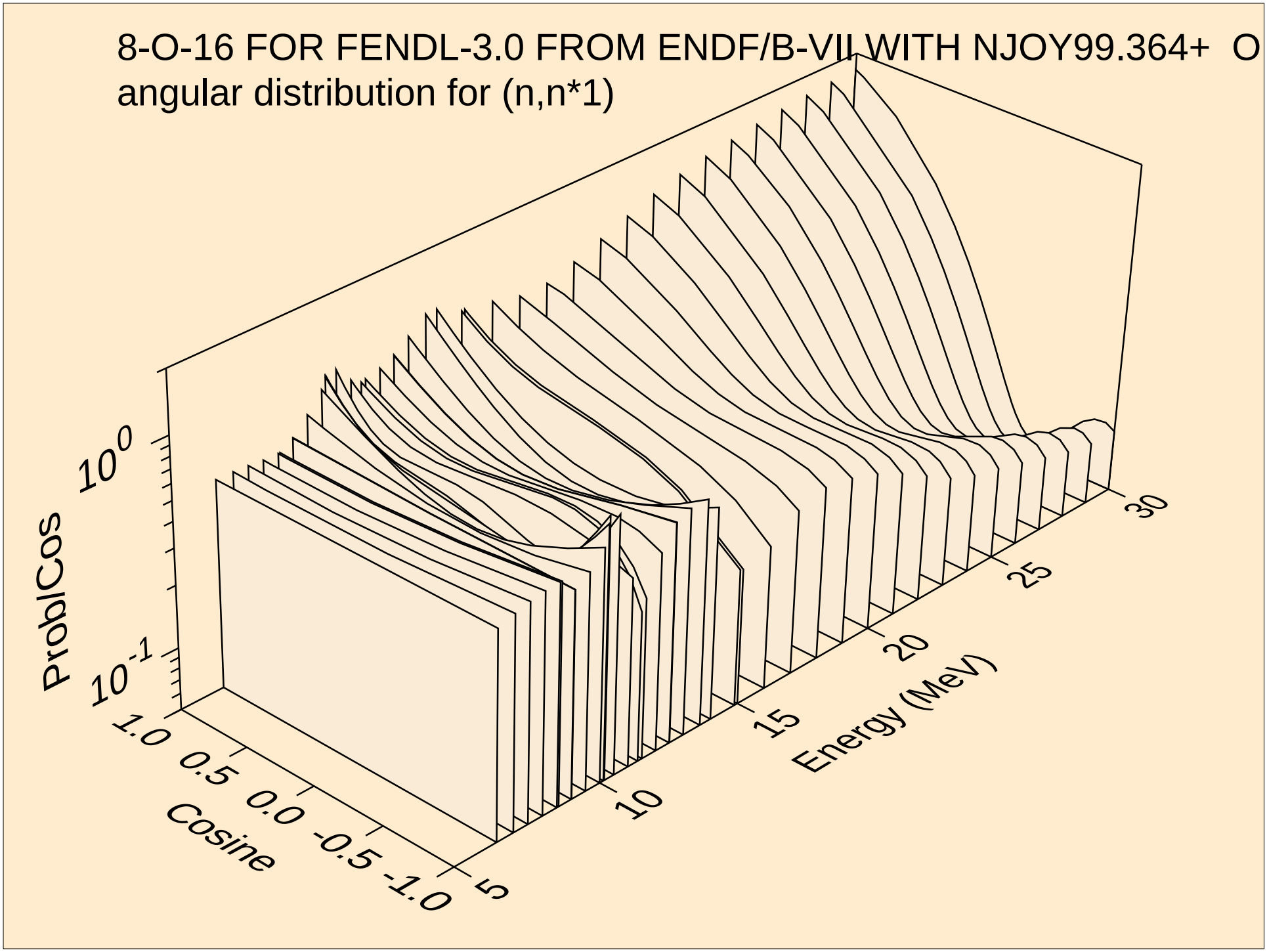

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
*10-3
Cross section (barns)
Energy (MeV)
(n,t*2)
(n,t*3)
(n,t*4)
(n,t*5)
(n,t*6)
0
1
2
3
4
5
6
18
20
22
24
26
28
30

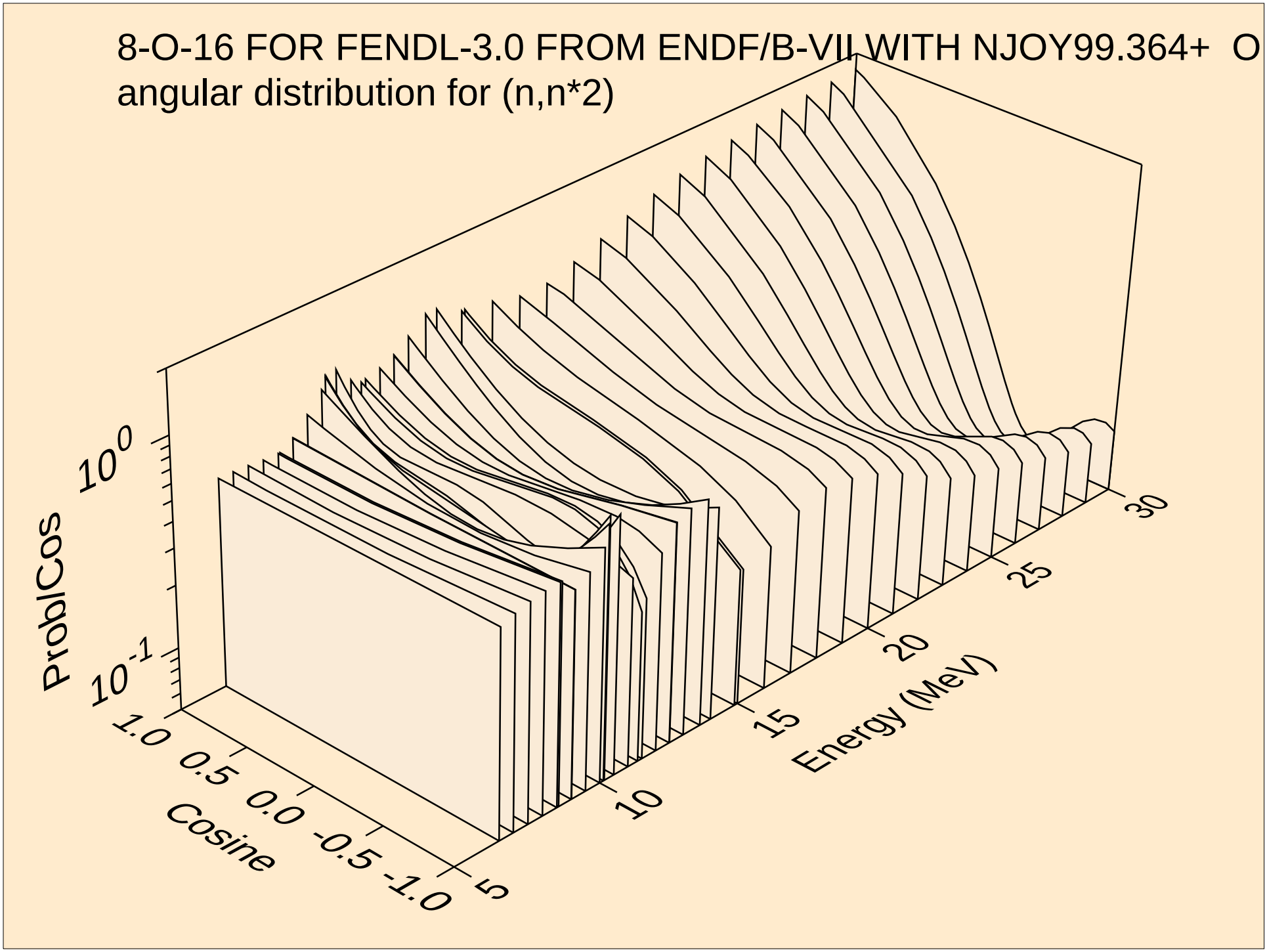

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
*10-3
350
300
250
200
150
100
50
0
(n,t*7)
(n,t*8)
(n,t*9)
(n,t*c)
(n,a*0)
Cross section (barns)
0
5
10
15
20
25
30
Energy (MeV)

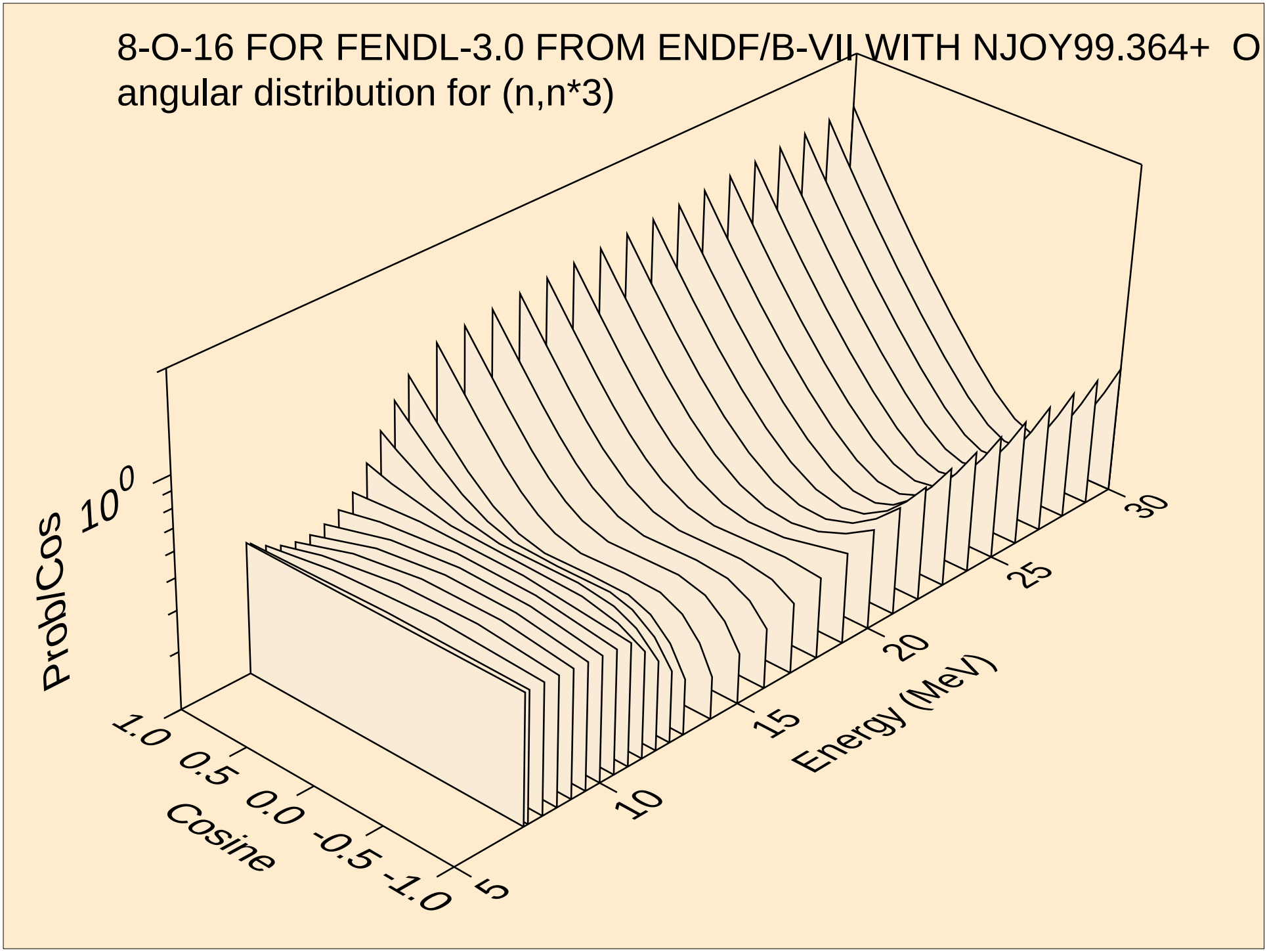

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Threshold reactions
160
*10-3
140
120
100
80
60
40
20
0
(n,a*1)
(n,a*2)
(n,a*3)
Cross section (barns)
5
10
15
20
25
30
Energy (MeV)

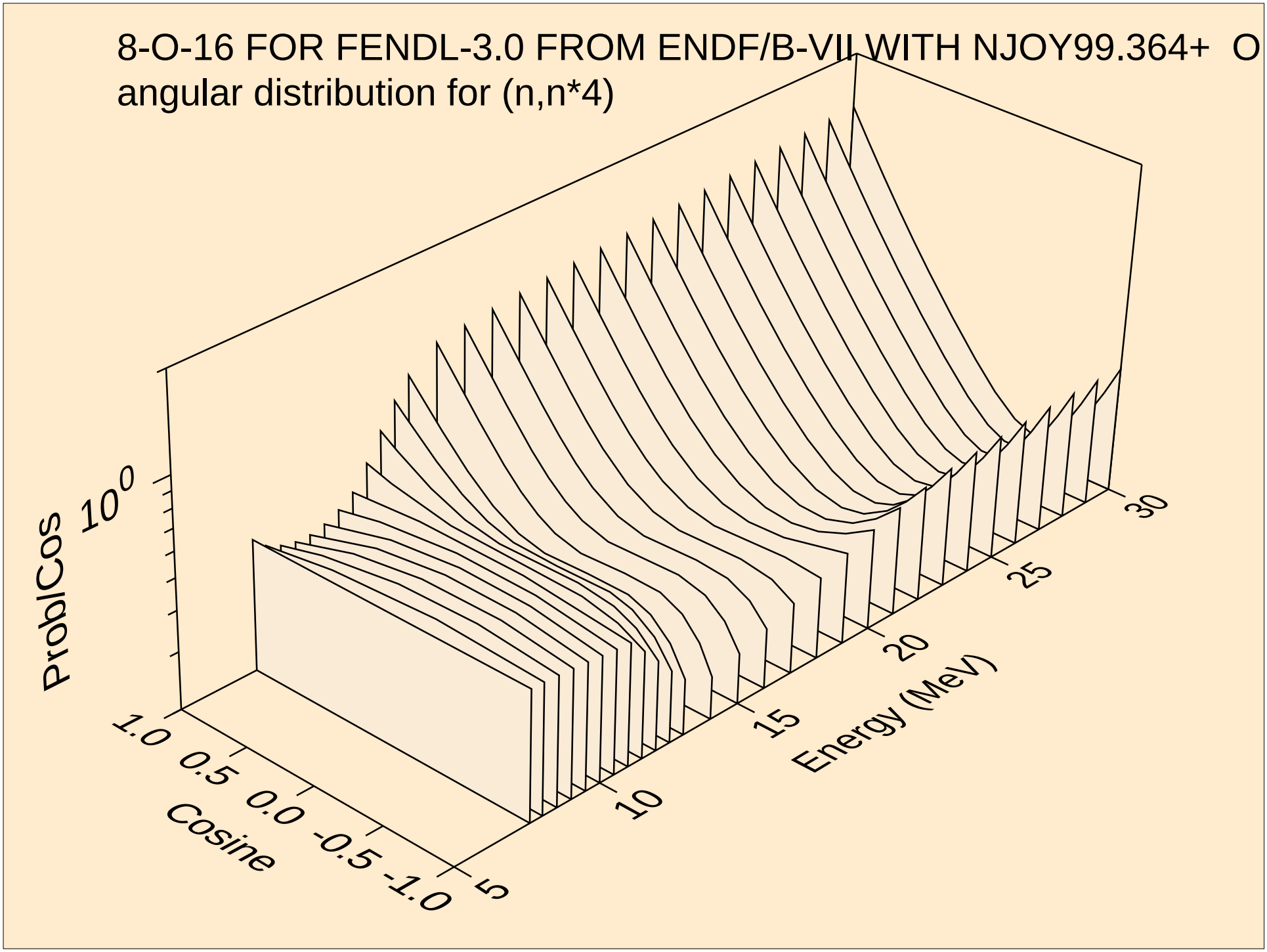

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for elastic
ProbCos
10^{1}
10^{-1}
10^{-3}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
Energy (MeV)

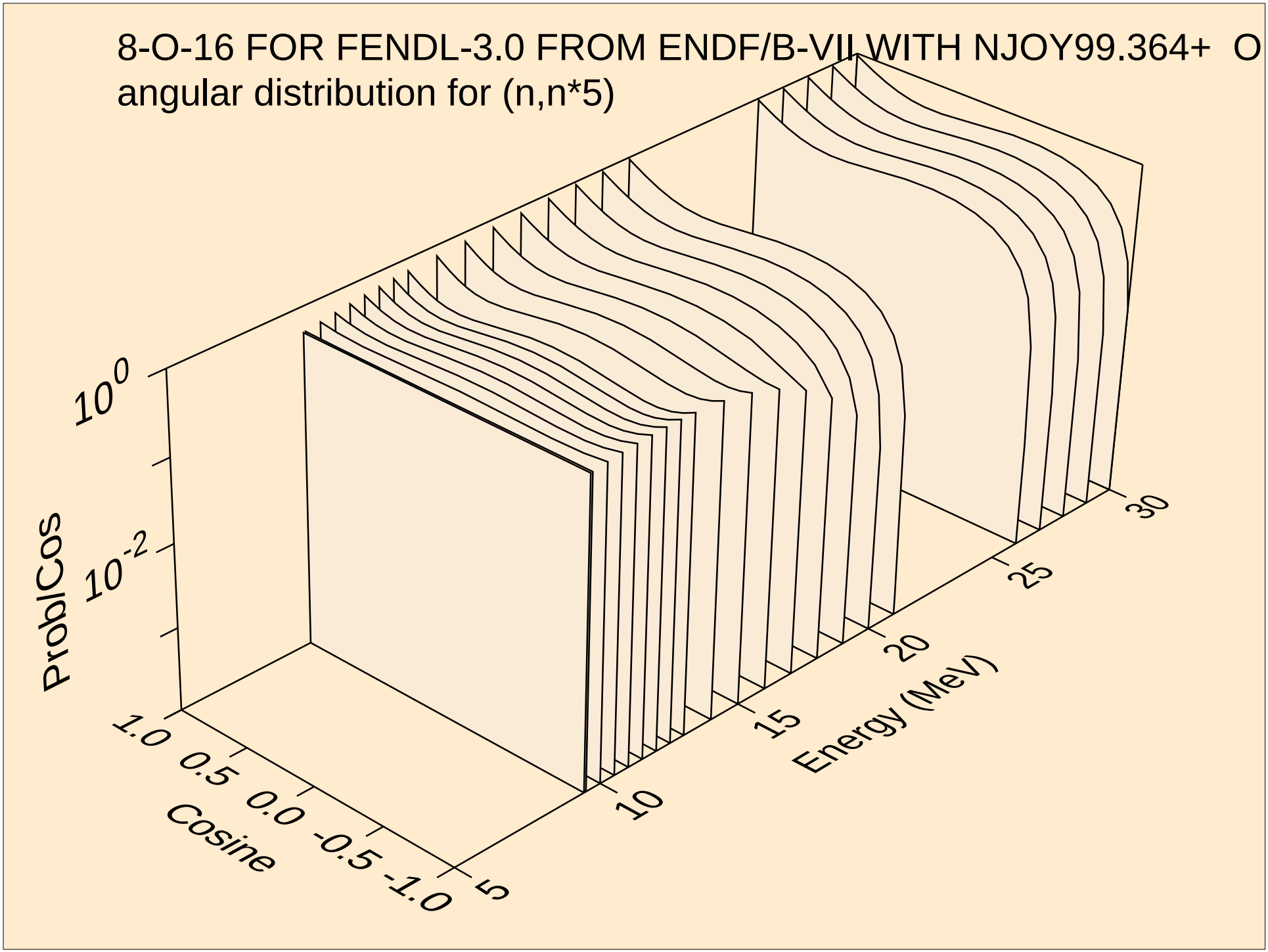

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for elastic
Prob\Cos
10^1
10^-1
10^-3
1.0
0.5
0.0
-0.5
-1.0
Cosine
20
40
60
80
100
120
140
160
Energy (MeV)

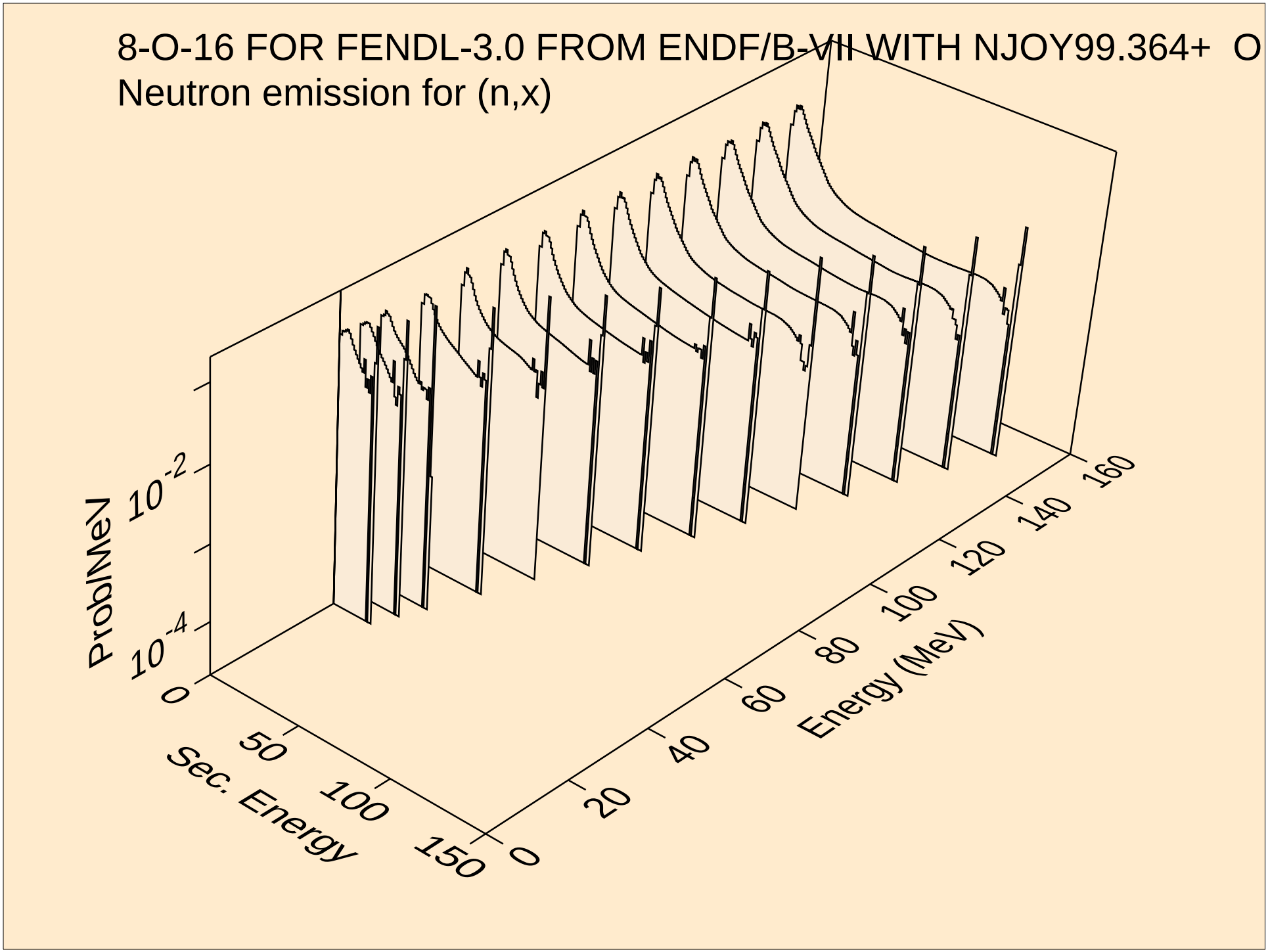

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for (n,n*1)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
5
10
15
20
25
30
Energy (MeV)

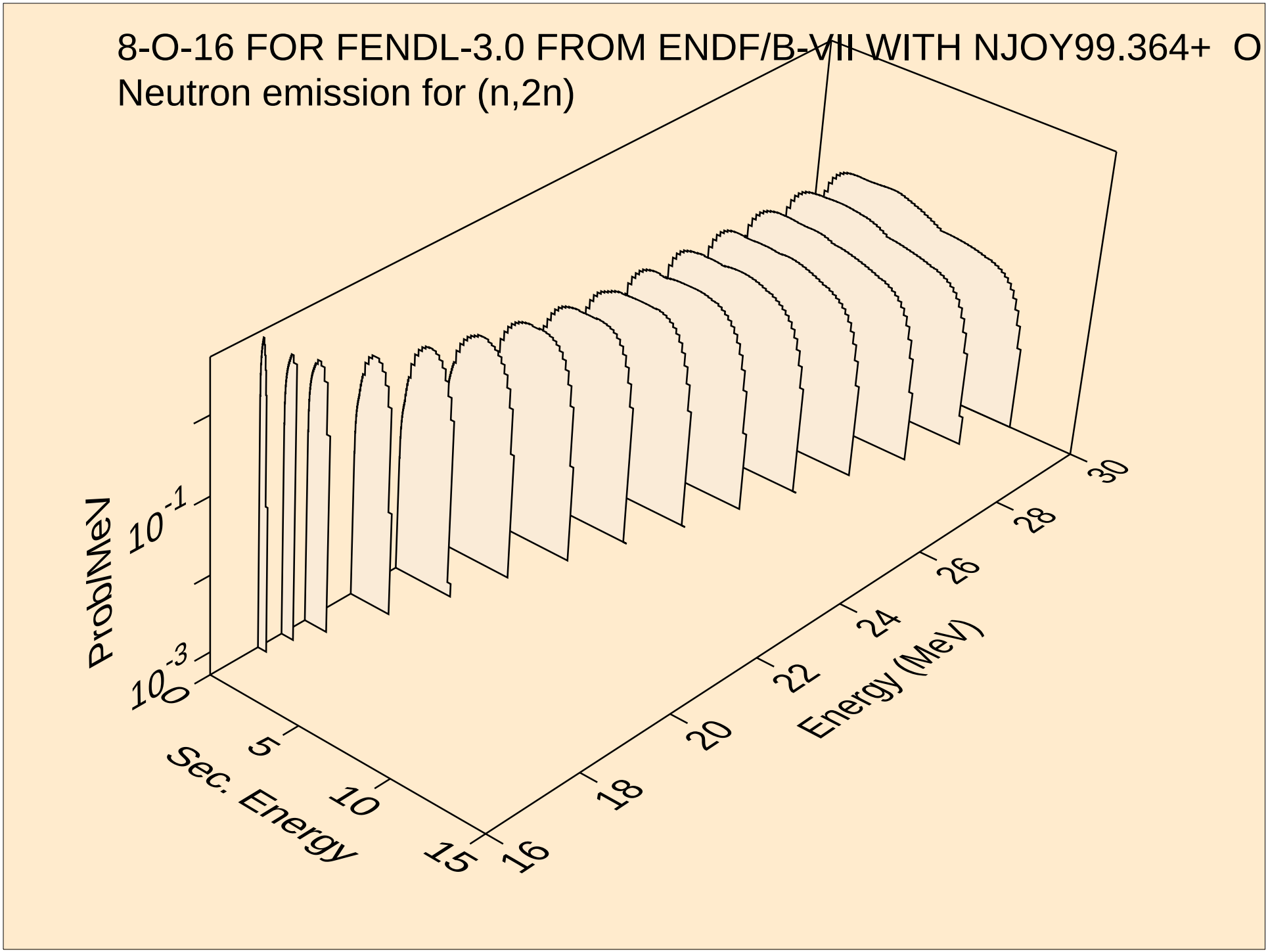

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for (n,n*2)
ProbICos
10^{0}
10^{-1}
1.0
0.5
0.0
-0.5
-1.0
Cosine
5
10
15
20
25
30
Energy (MeV)

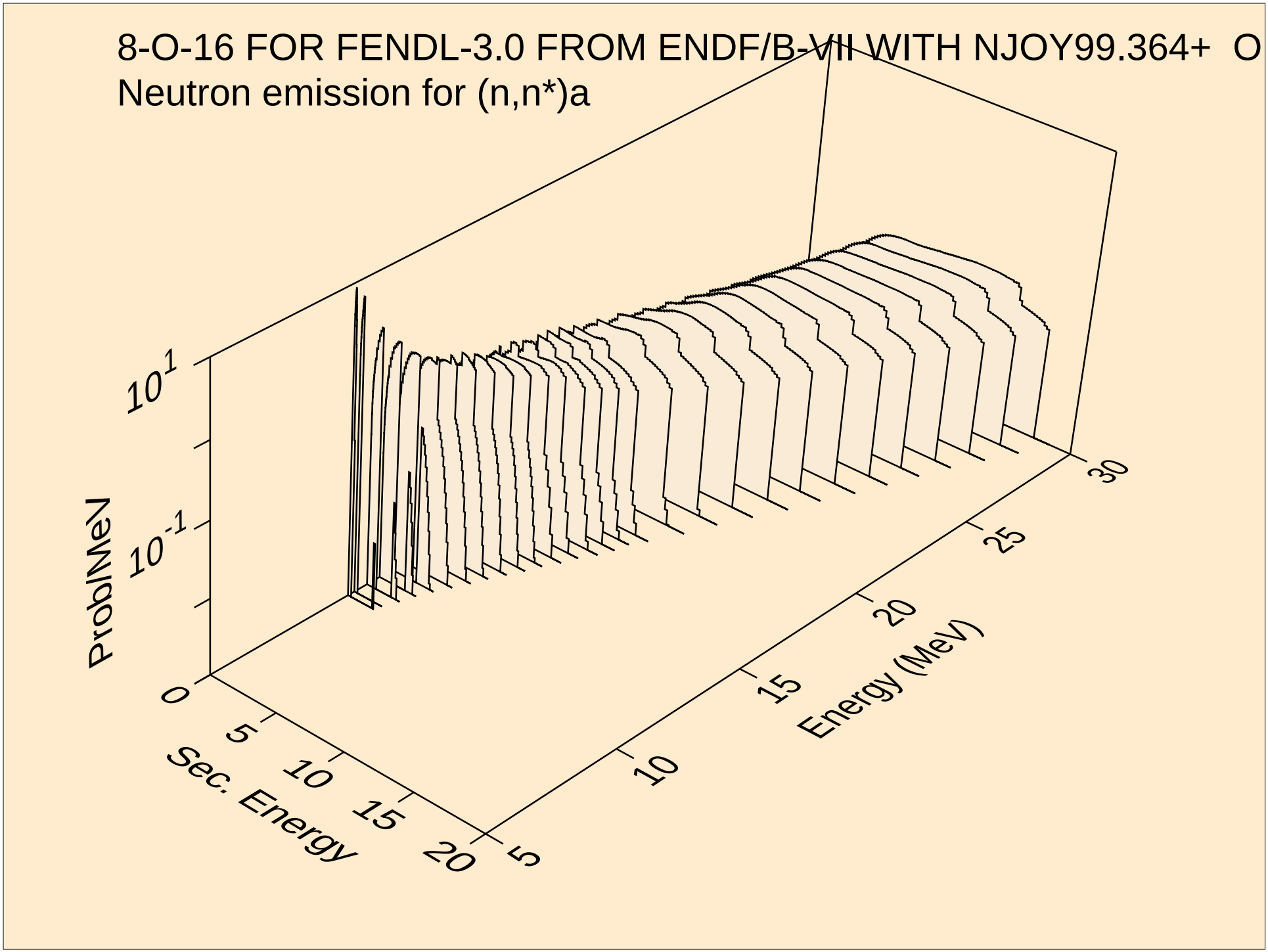

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for (n,n*3)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
5
10
15
20
25
30
Energy (MeV)

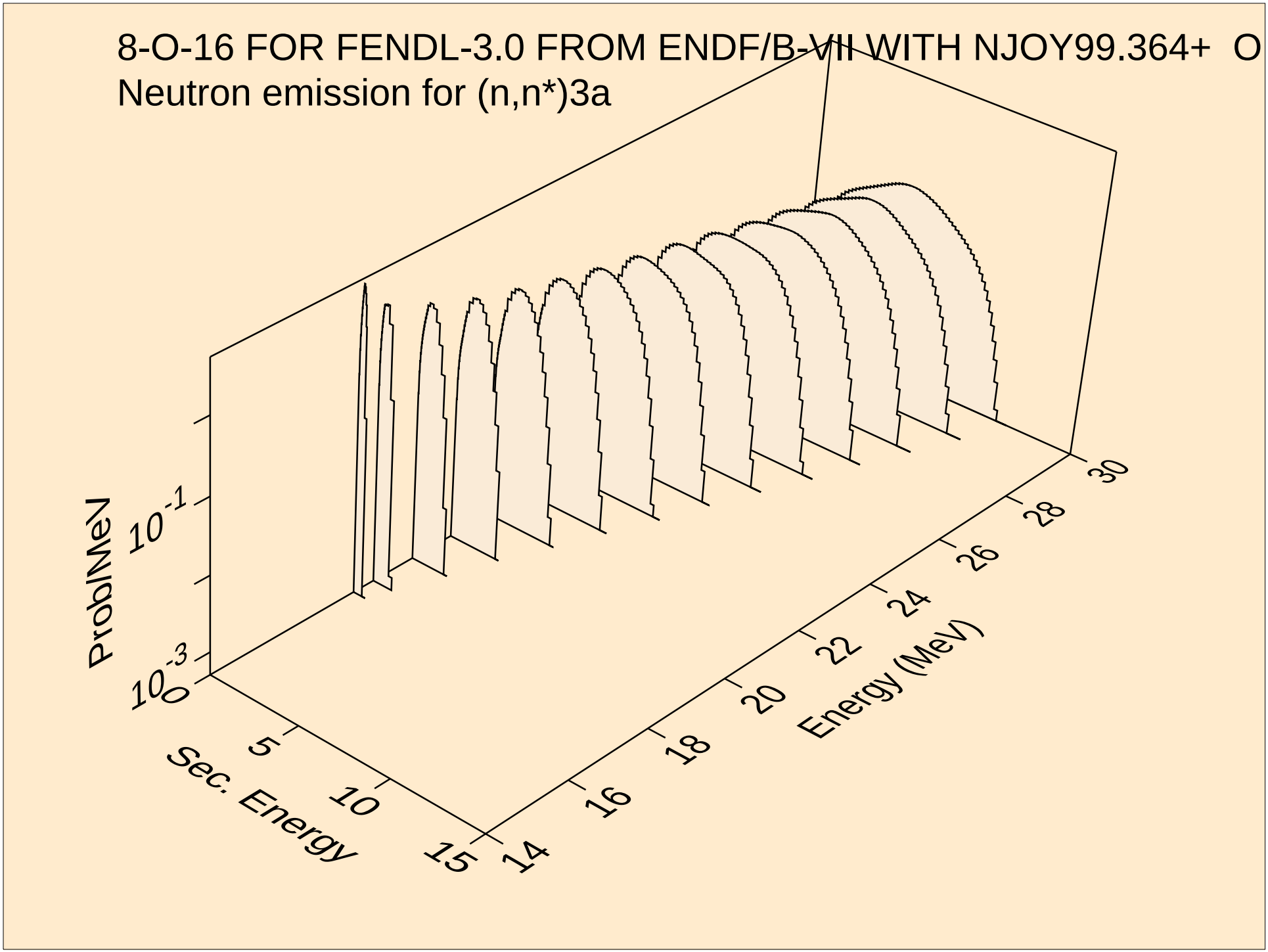

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for (n,n*4)
ProbICos
10^0
1.0
0.5
0.0
-0.5
-1.0
Cosine
5
10
15
20
25
30
Energy (MeV)

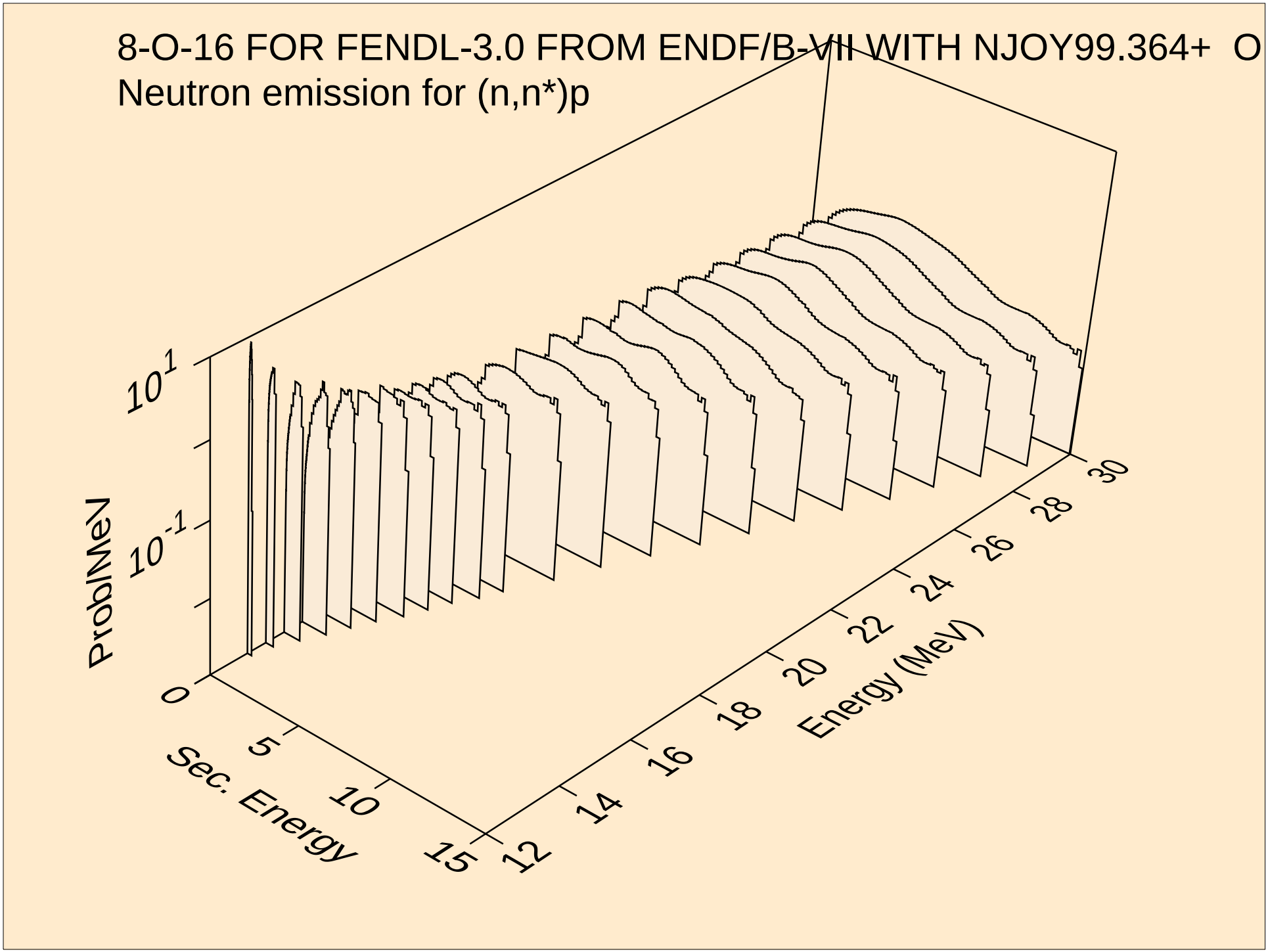

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for (n,n*5)
ProbICos
10^0
10^-2
1.0
0.5
0.0
-0.5
-1.0
Cosine
5
10
15
20
25
30
Energy (MeV)

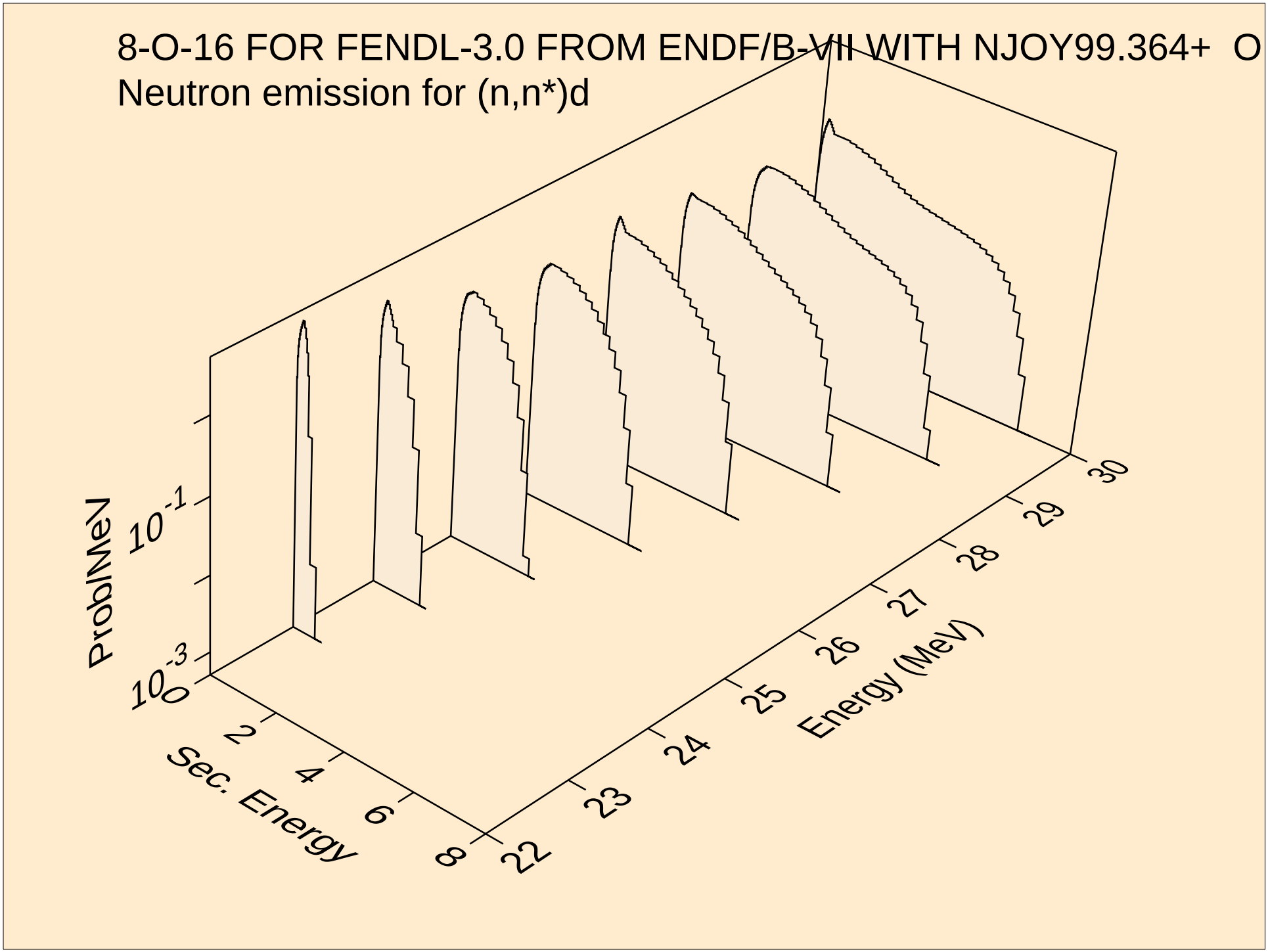

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,x)
Prob/MeV
10-2
10-4
0
50
100
150
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

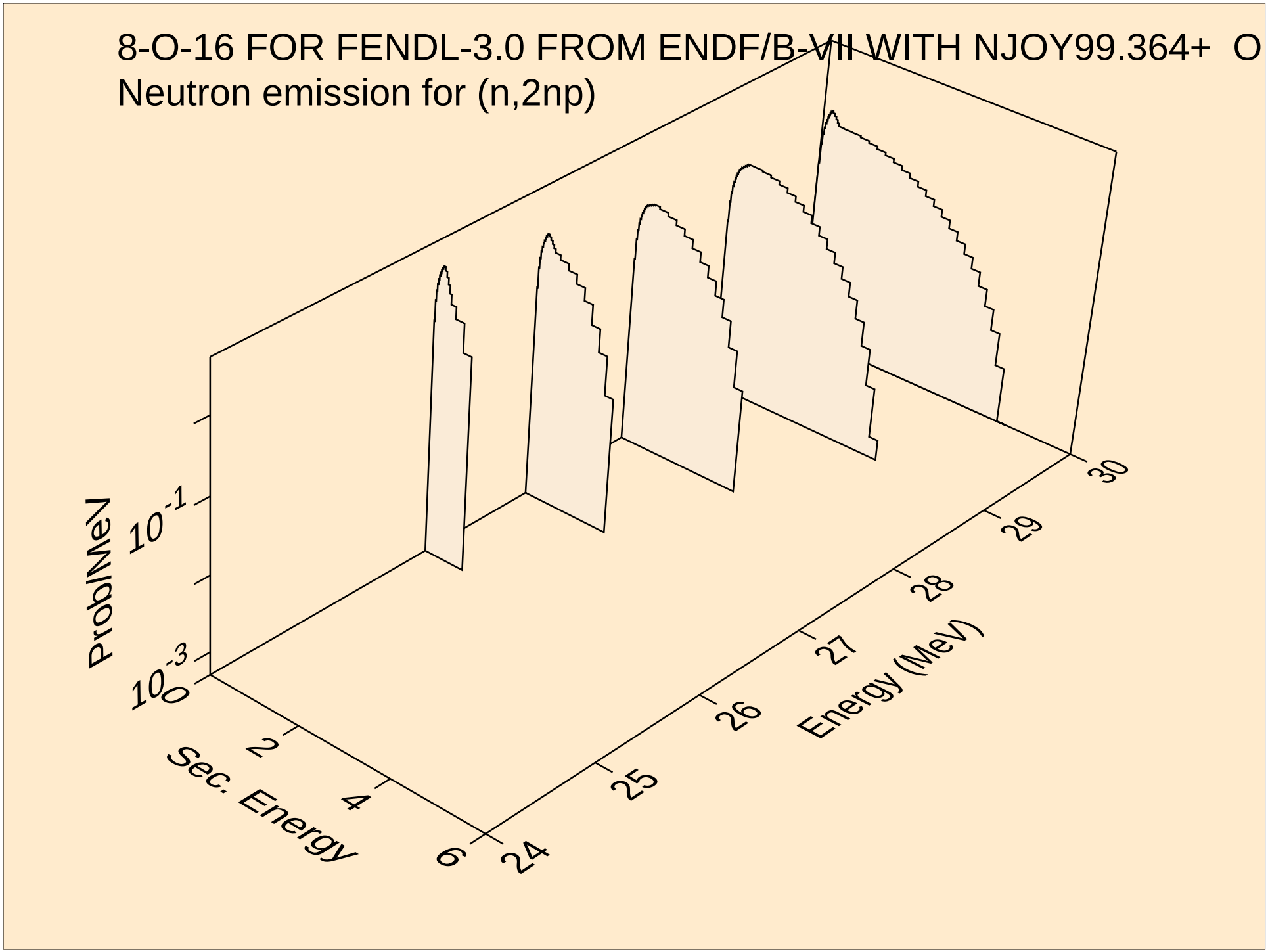

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,2n)
Prob/MeV
10-1
10-3
0
5
10
15
16
18
20
22
24
26
28
30
Sec. Energy
Energy (MeV)

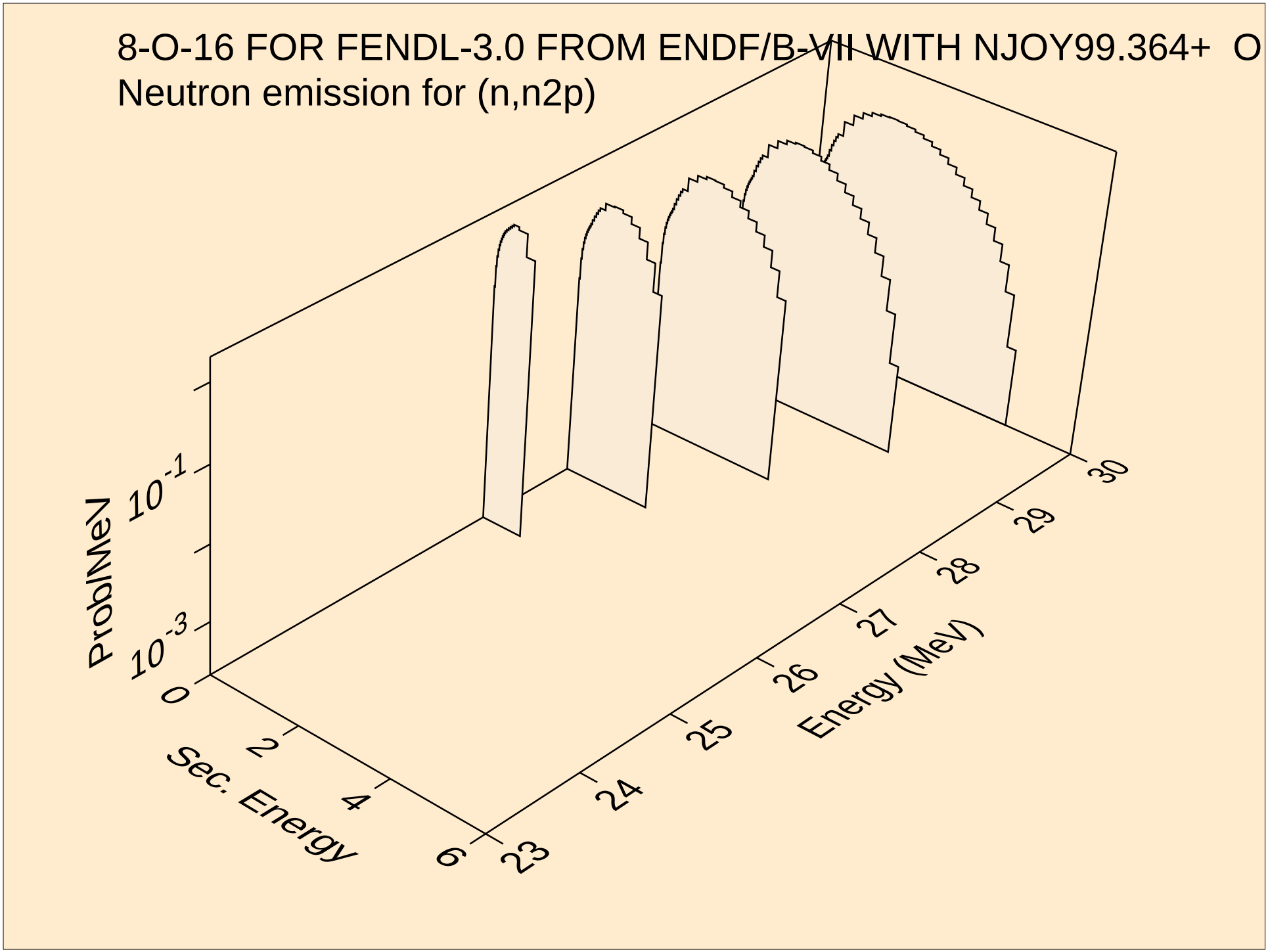

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,n*)a
Prob/MeV
10^1
10^-1
0
5
10
15
20
Sec. Energy
5
10
15
20
25
30
Energy (MeV)

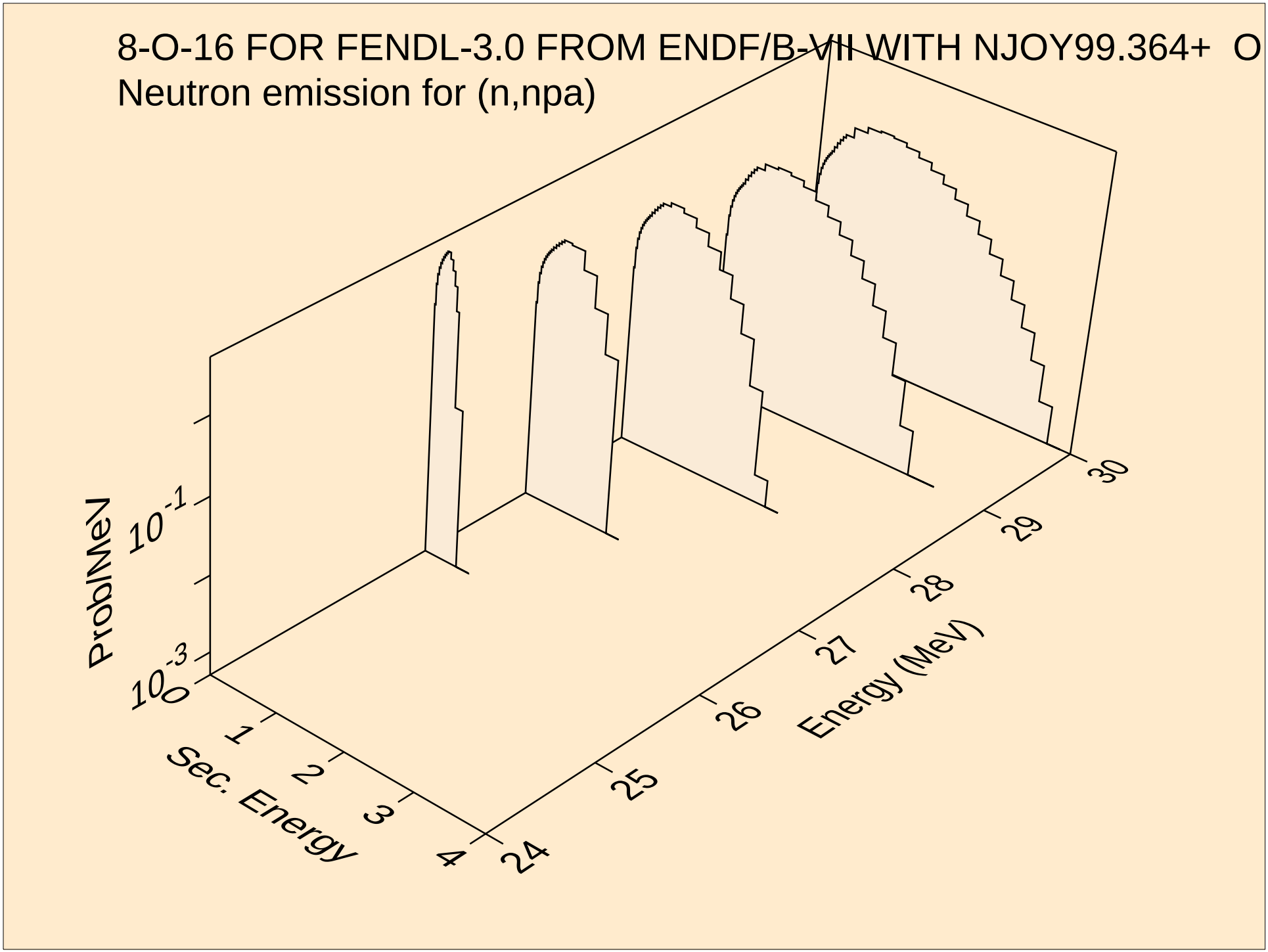

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,n*)3a
Prob/MeV
10-1
10-3
0
5
10
15
Sec. Energy
14
16
18
20
22
24
26
28
30
Energy (MeV)

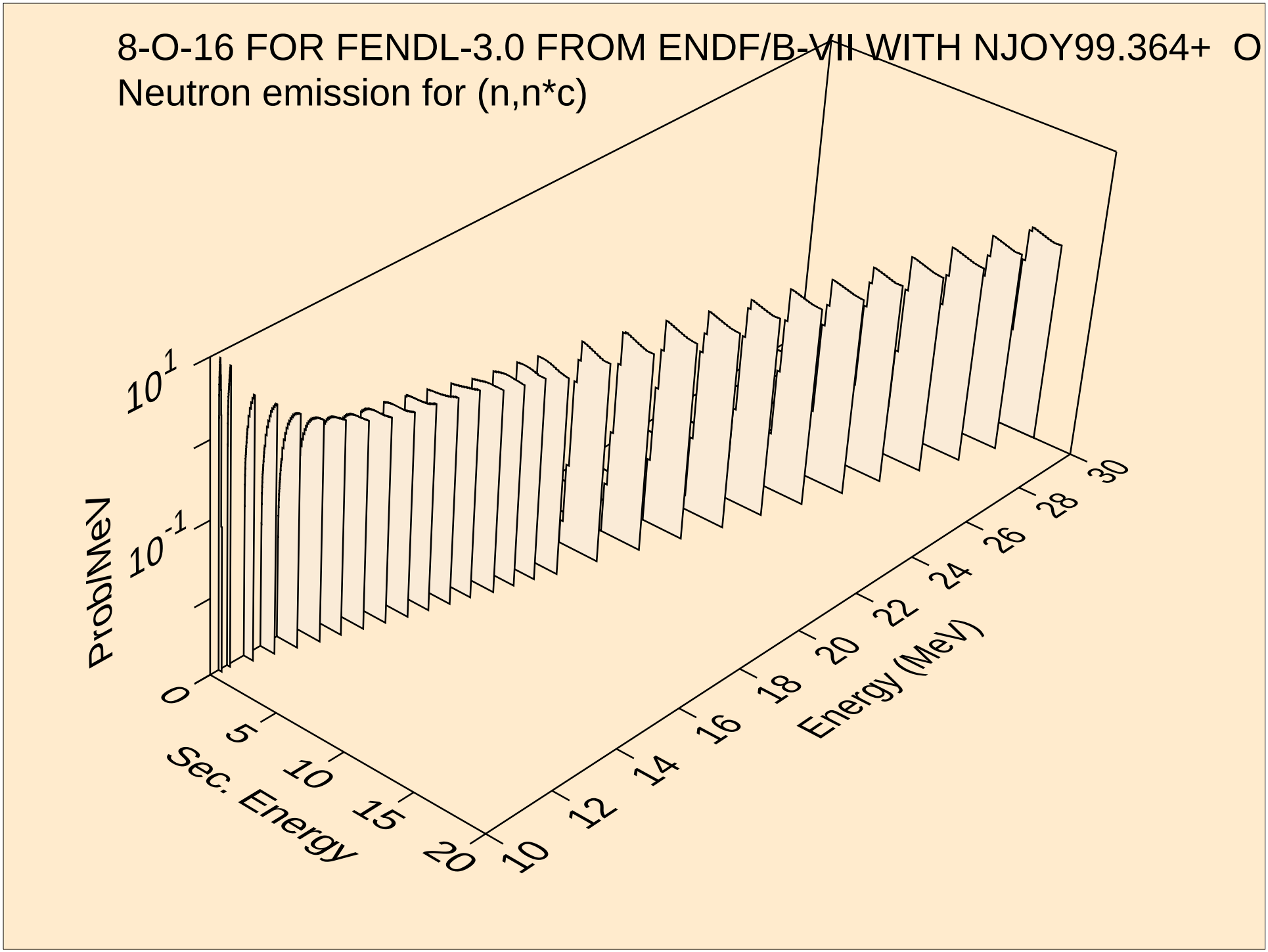

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,n*)p
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
Sec. Energy
12
14
16
18
20
22
24
26
28
30
Energy (MeV)

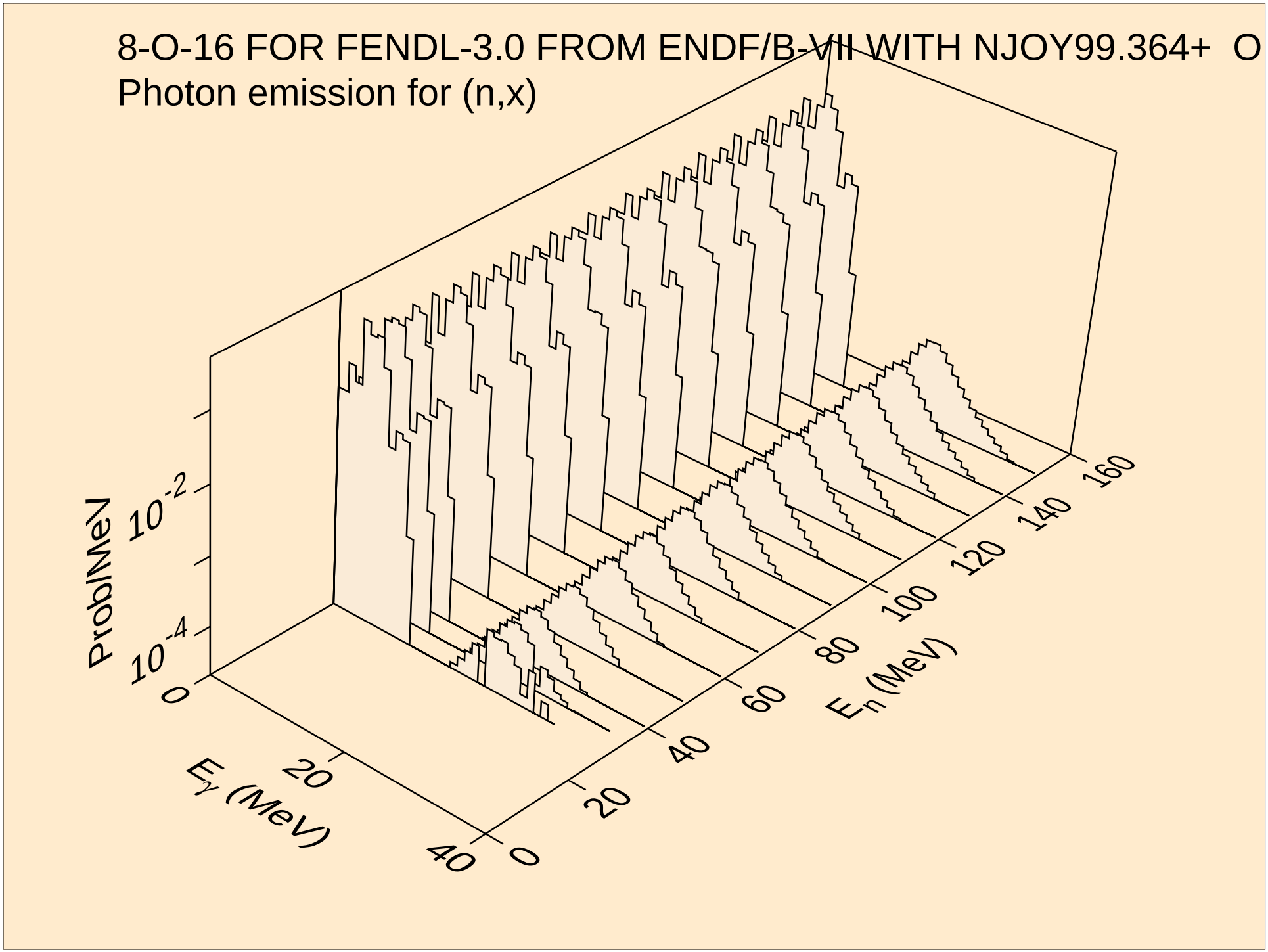

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,n*)d
Prob/MeV
10-1
10-3
0
2
4
6
8
Sec. Energy
22
23
24
25
26
27
28
29
30
Energy (MeV)

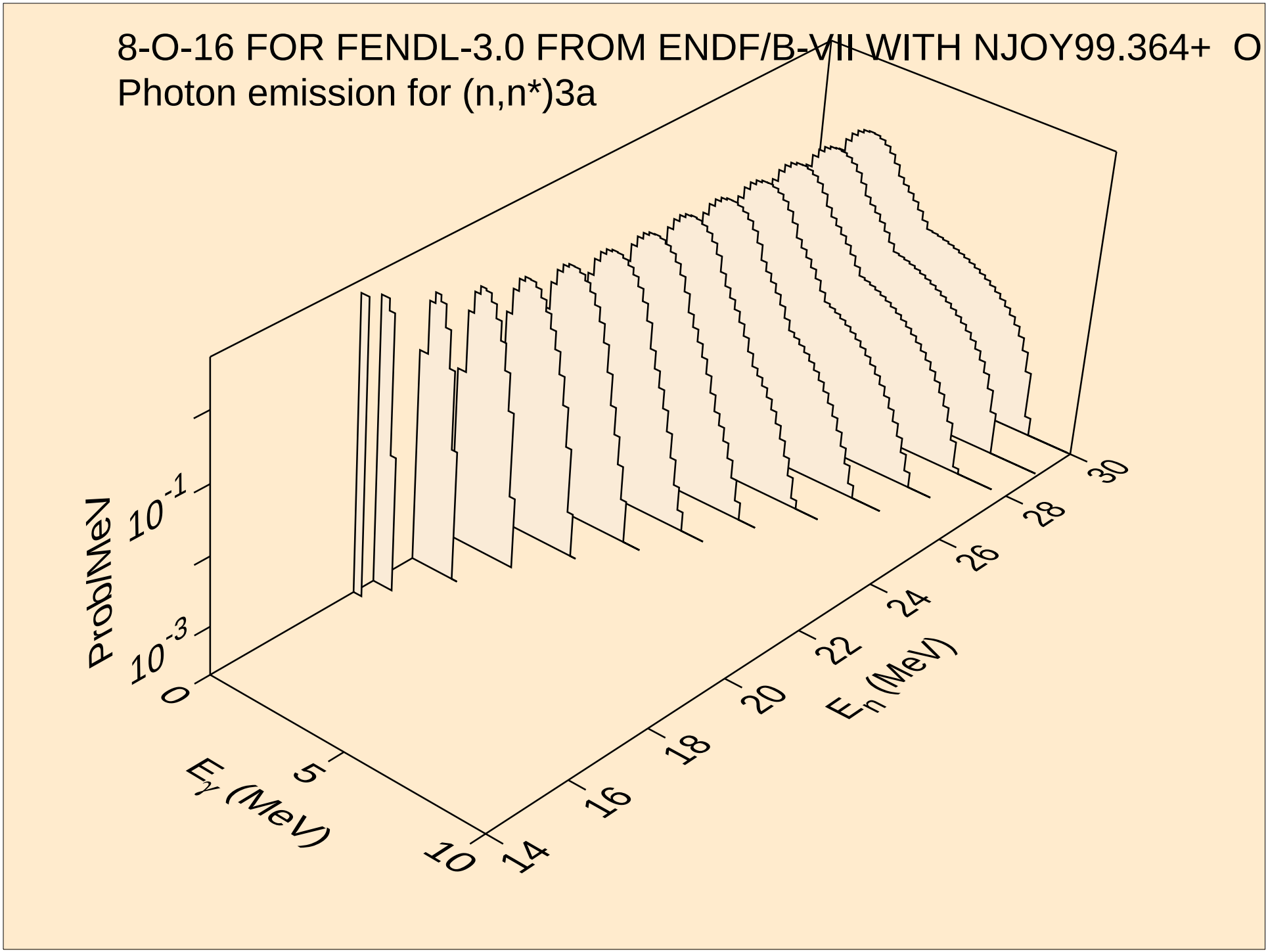

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,2np)
Prob/MeV
10-1
10-3
0
2
4
6
Sec. Energy
24
25
26
27
28
29
30
Energy (MeV)

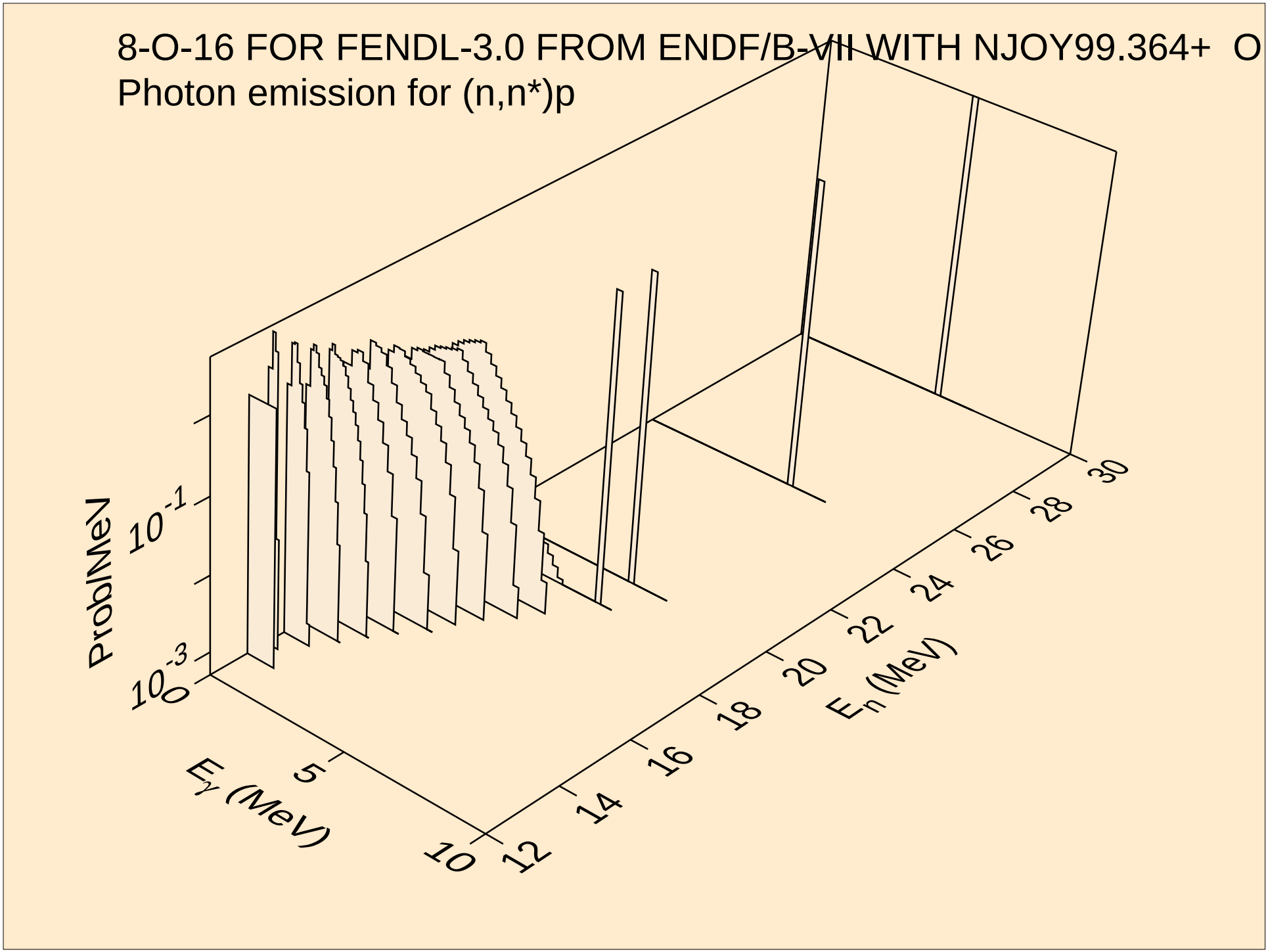

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,n2p)
Prob/MeV
10-1
10-3
0
2
4
6
Sec. Energy
23
24
25
26
27
28
29
30
Energy (MeV)

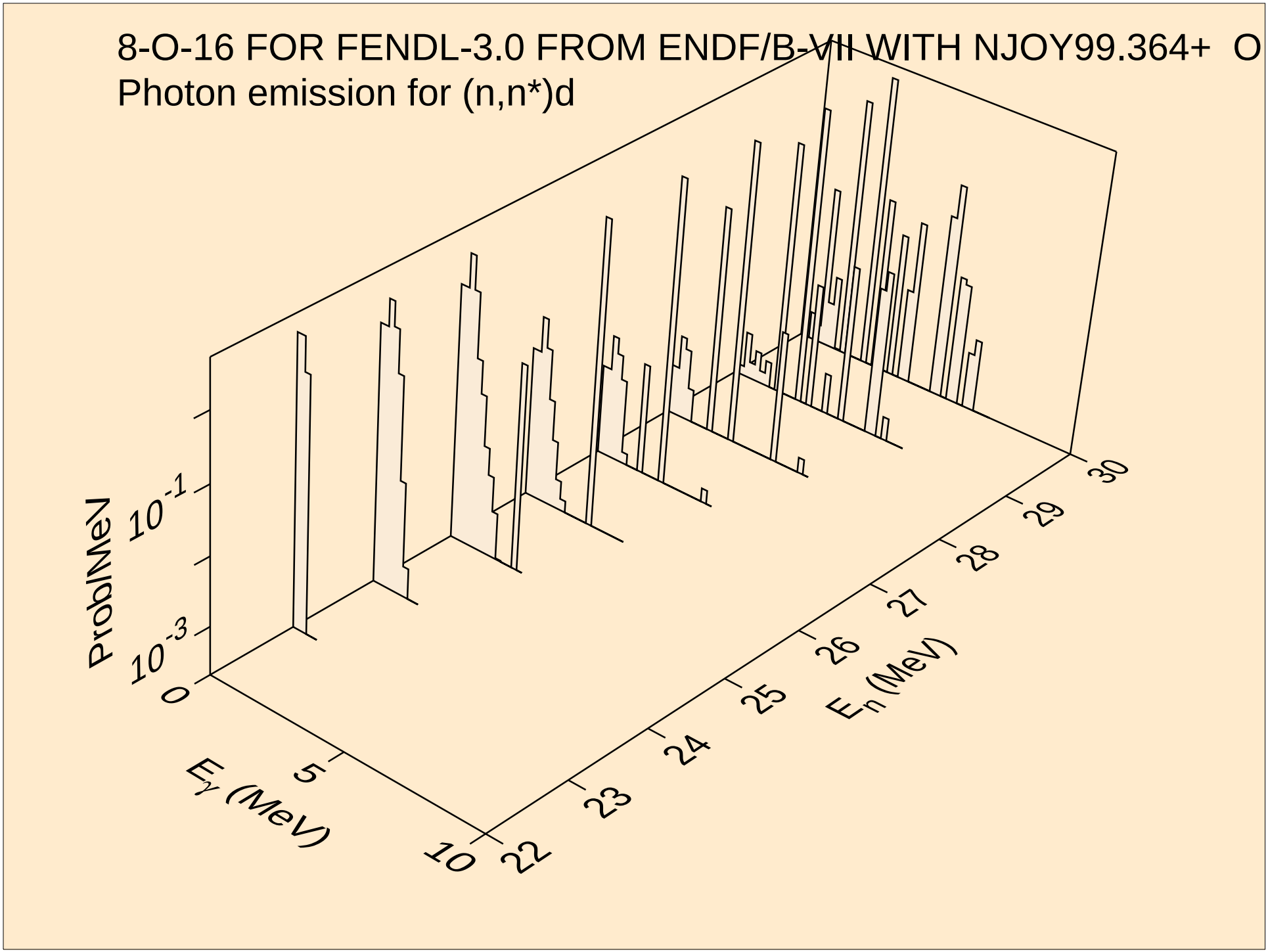

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,npa)
Prob/MeV
10-1
10-3
0
1
2
3
4
Sec. Energy
24
25
26
27
28
29
30
Energy (MeV)

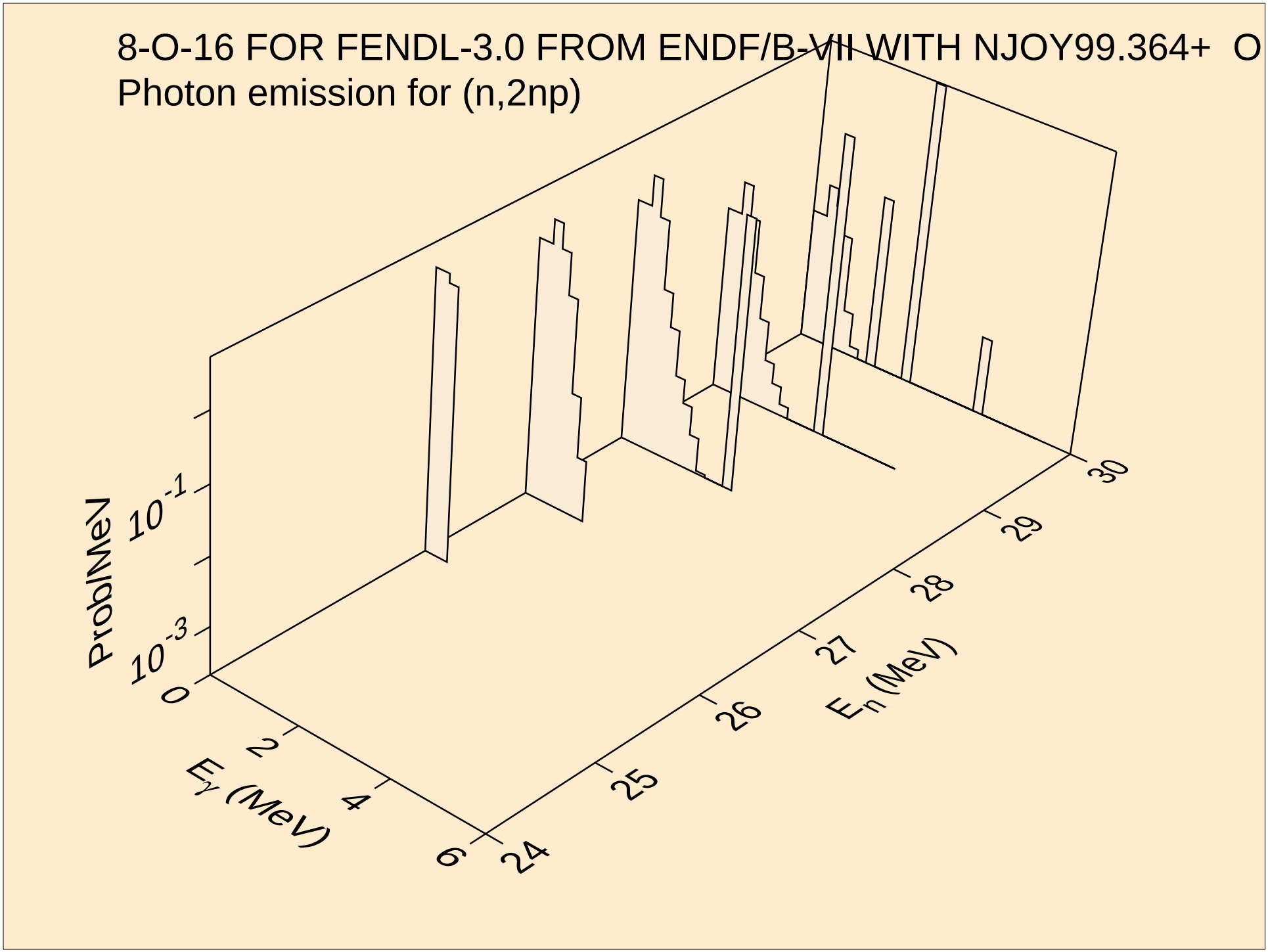

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Neutron emission for (n,n*c)
Prob/MeV
10^{1}
10^{-1}
0
5
10
15
20
Sec. Energy
10
12
14
16
18
20
22
24
26
28
30
Energy (MeV)

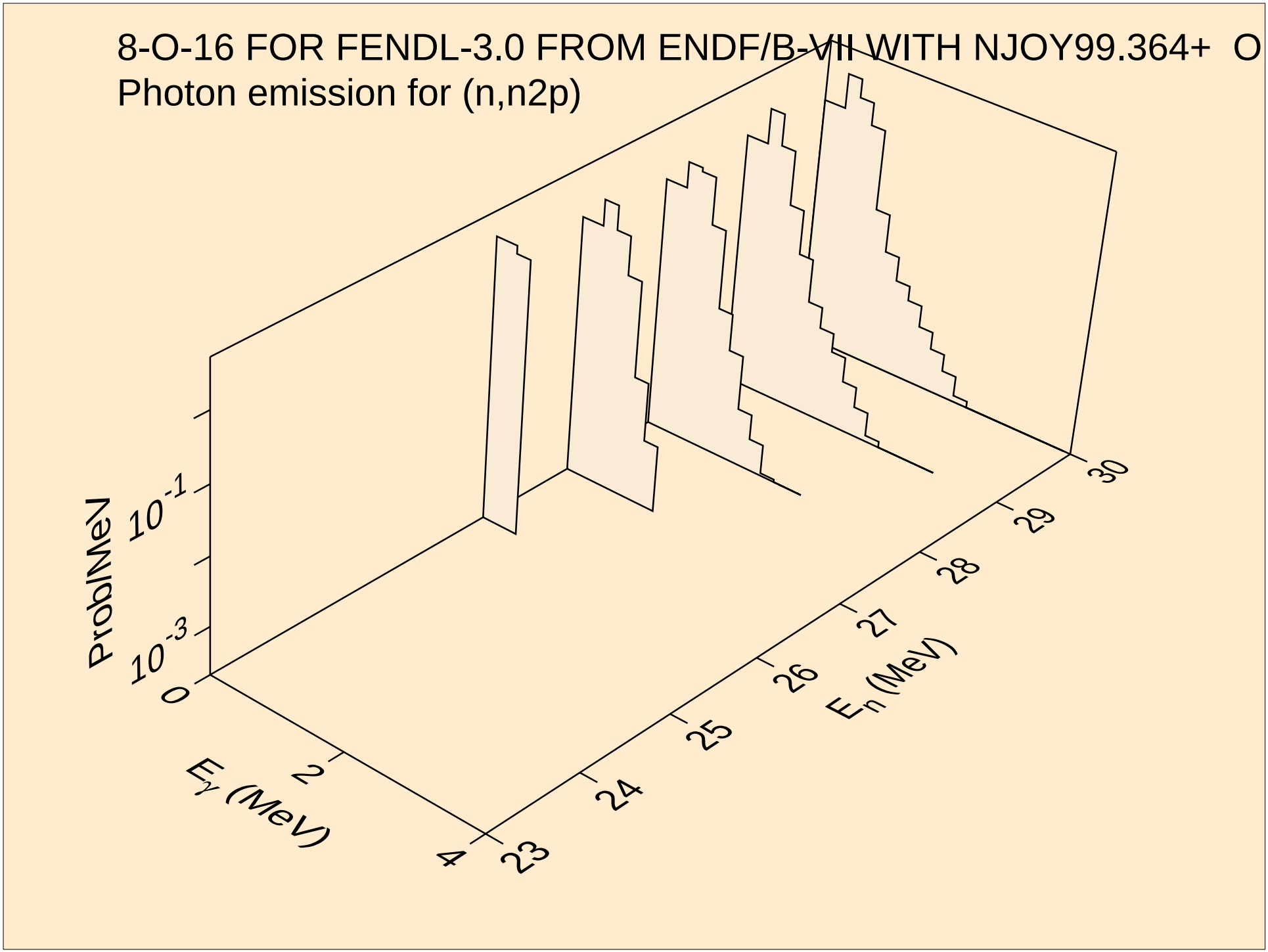

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,x)
Prob/MeV
10-2
10-4
0
20
40
Eγ (MeV)
0
20
40
60
80
100
120
140
160
En (MeV)

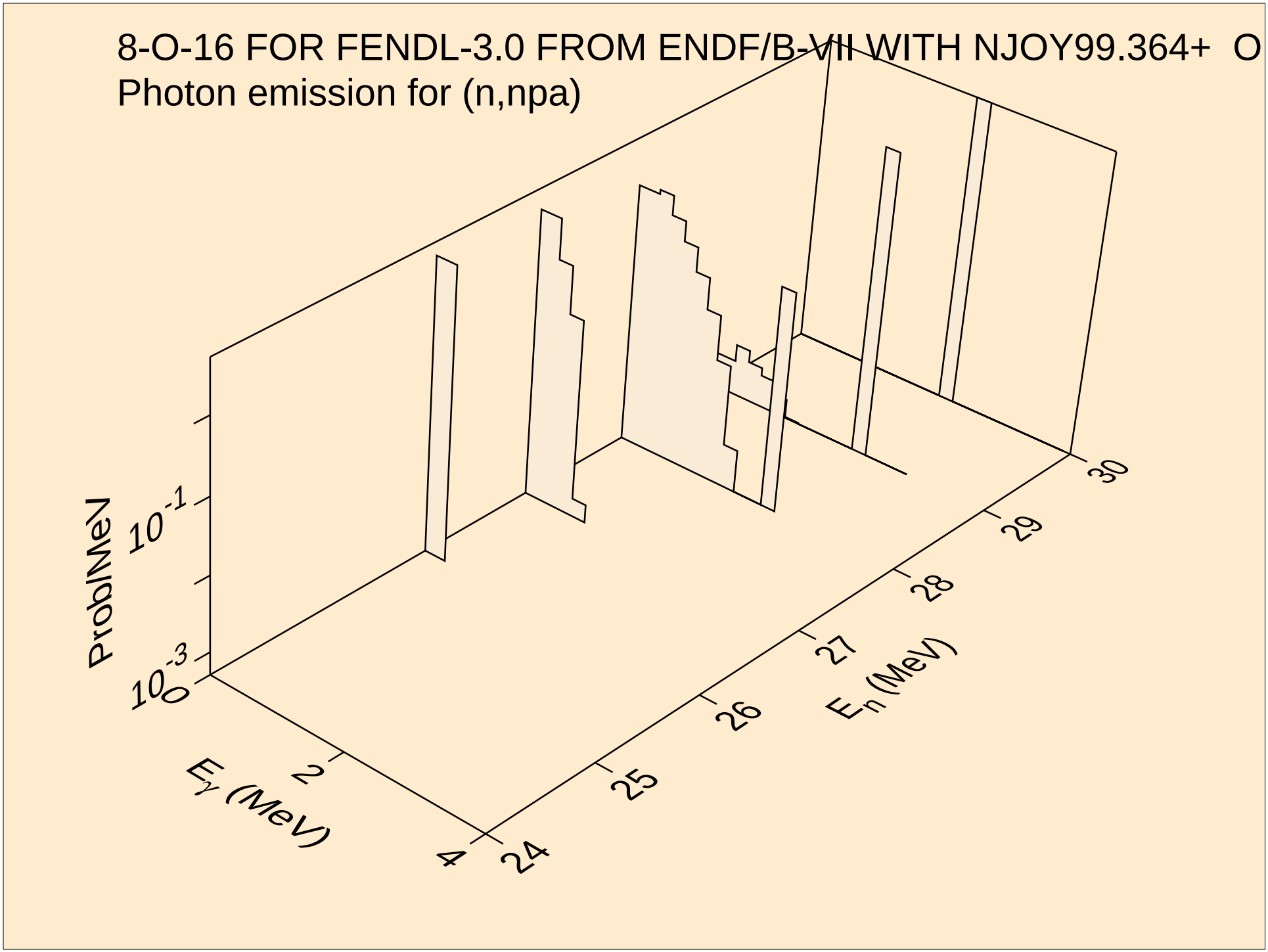

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,n*)3a
Prob/MeV
10-1
10-3
0
Eγ (MeV)
5
10
En (MeV)
14
16
18
20
22
24
26
28
30

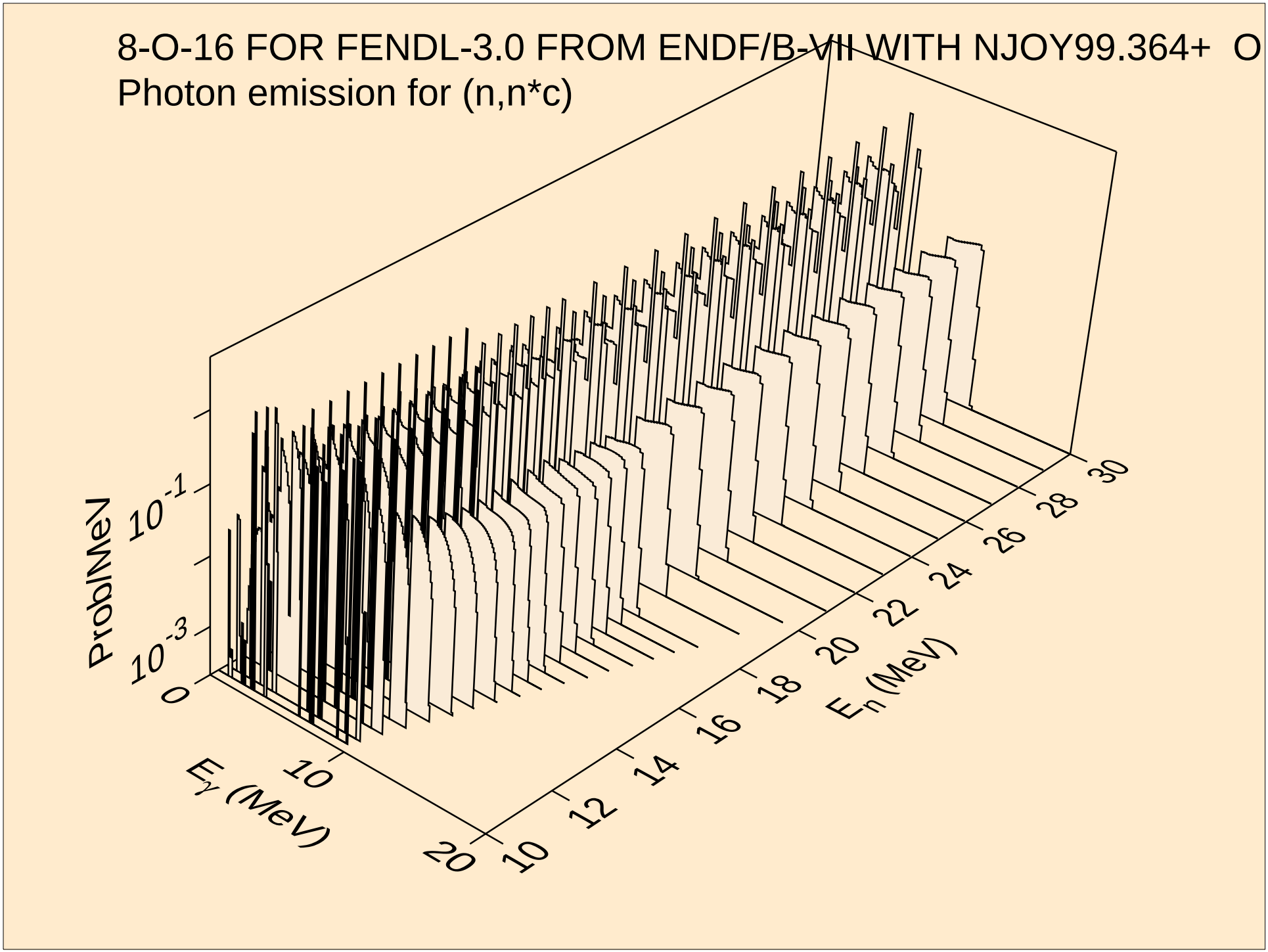

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,n*)p
Prob/MeV
10-1
10-3
0
5
10
Eγ (MeV)
12
14
16
18
20
22
24
26
28
30
En (MeV)

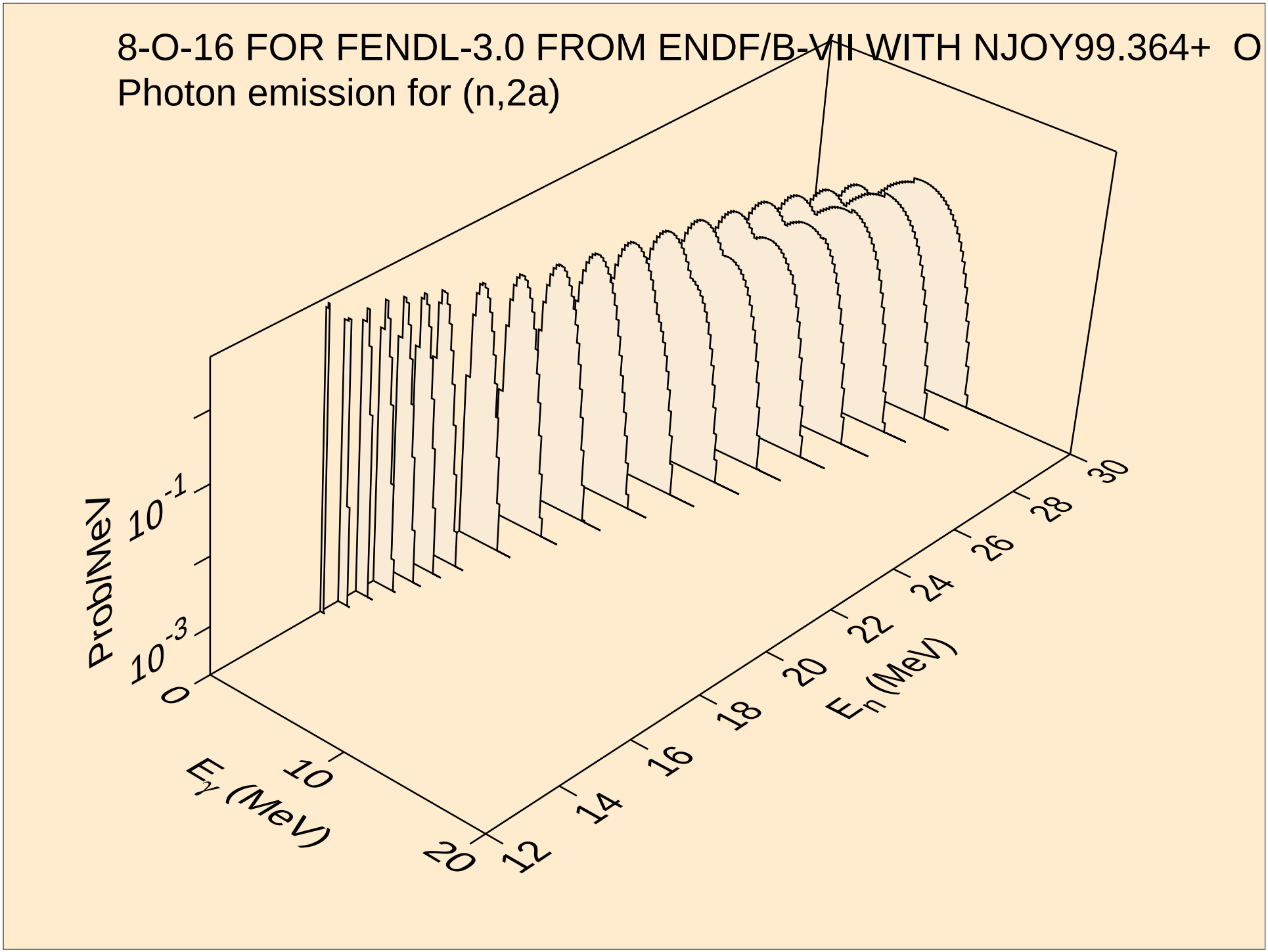

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,n*)d
Prob/MeV
10-1
10-3
0
5
10
Eγ (MeV)
22
23
24
25
26
27
28
29
30
En (MeV)

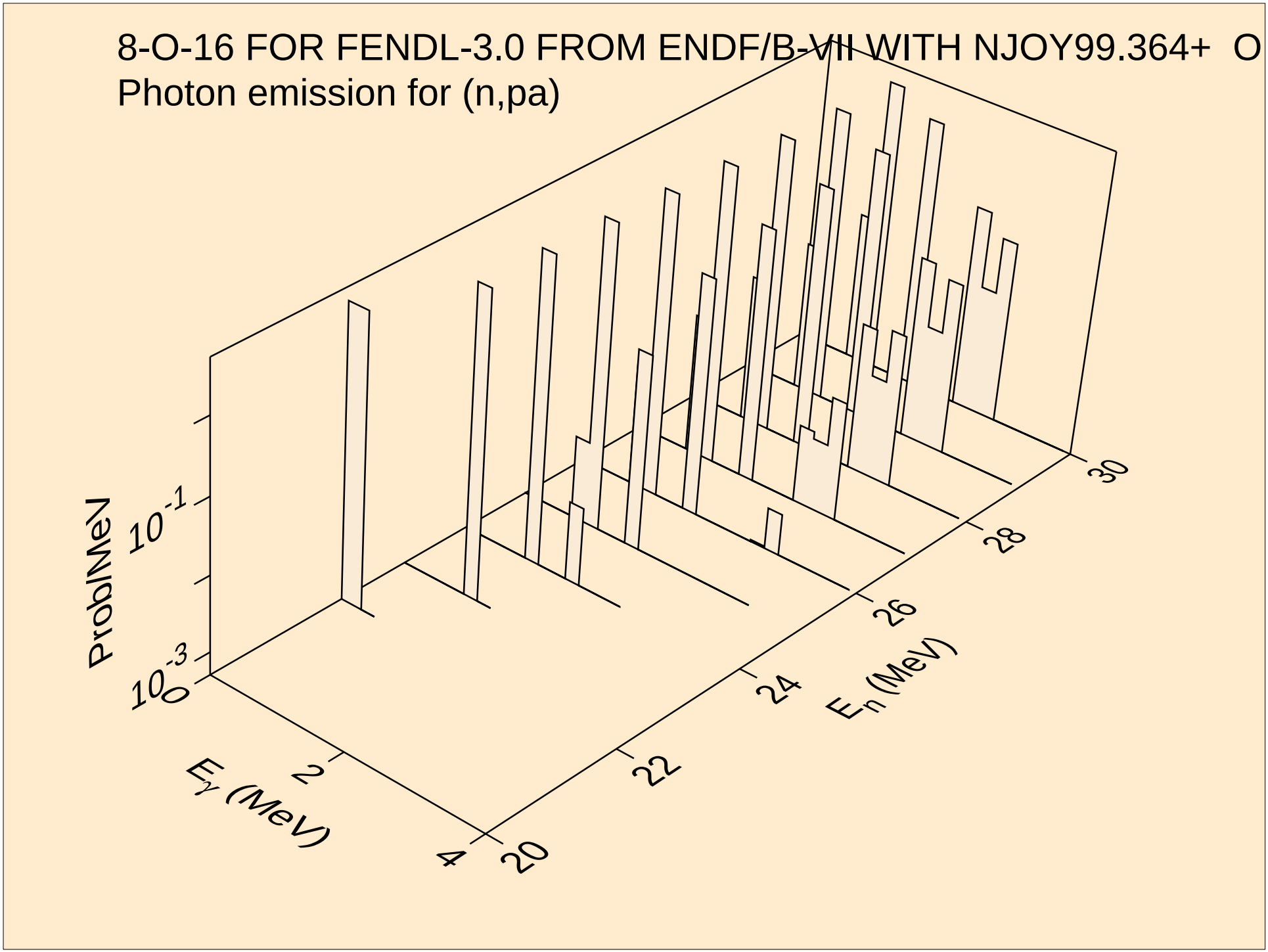

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,2np)
Prob/MeV
10-1
10-3
0
2
4
6
Eγ (MeV)
24
25
26
27
28
29
30
En (MeV)

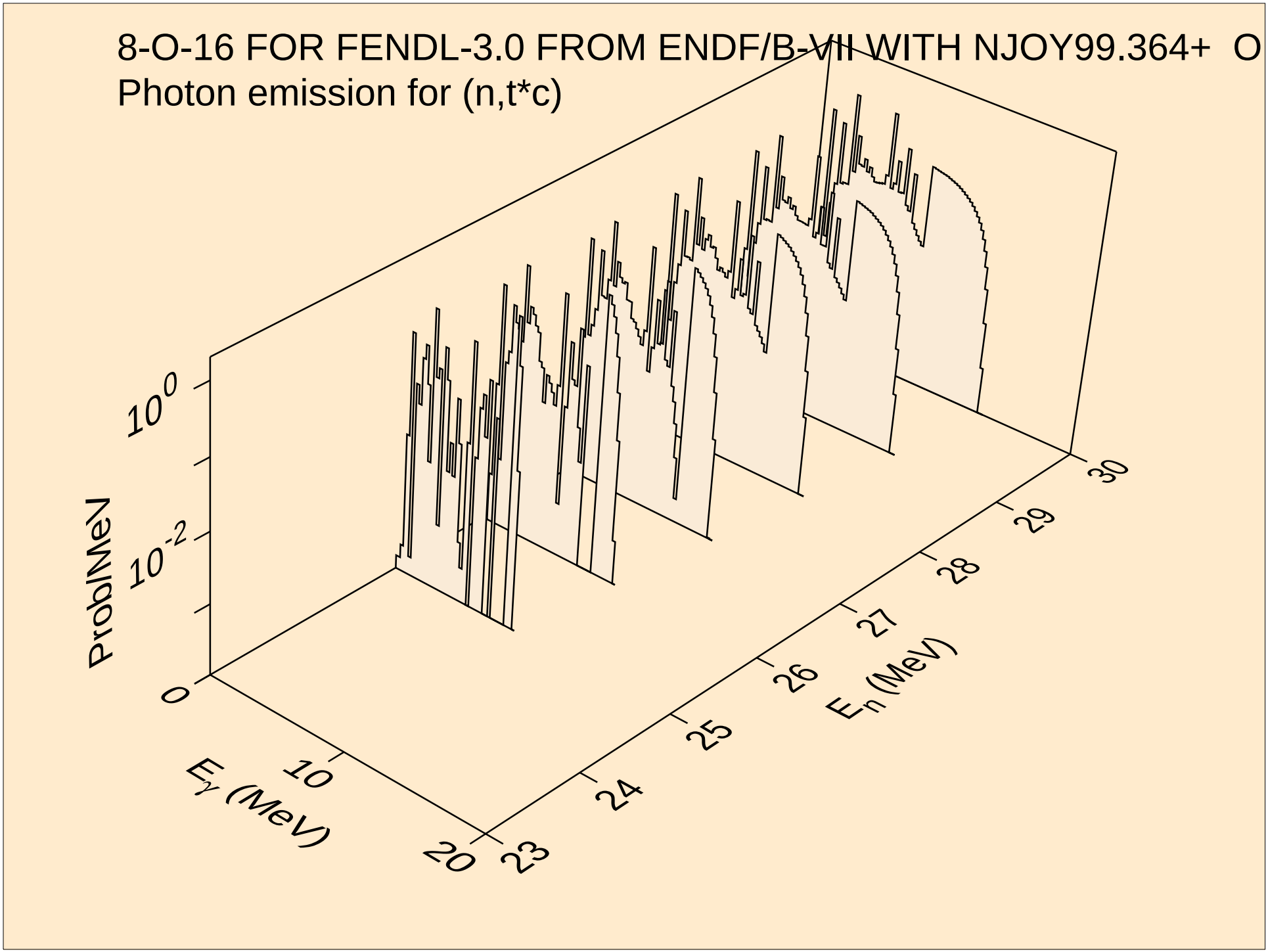

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,n2p)
Prob/MeV
10-1
10-3
0
2
4
Eγ (MeV)
23
24
25
26
27
28
29
30
En (MeV)

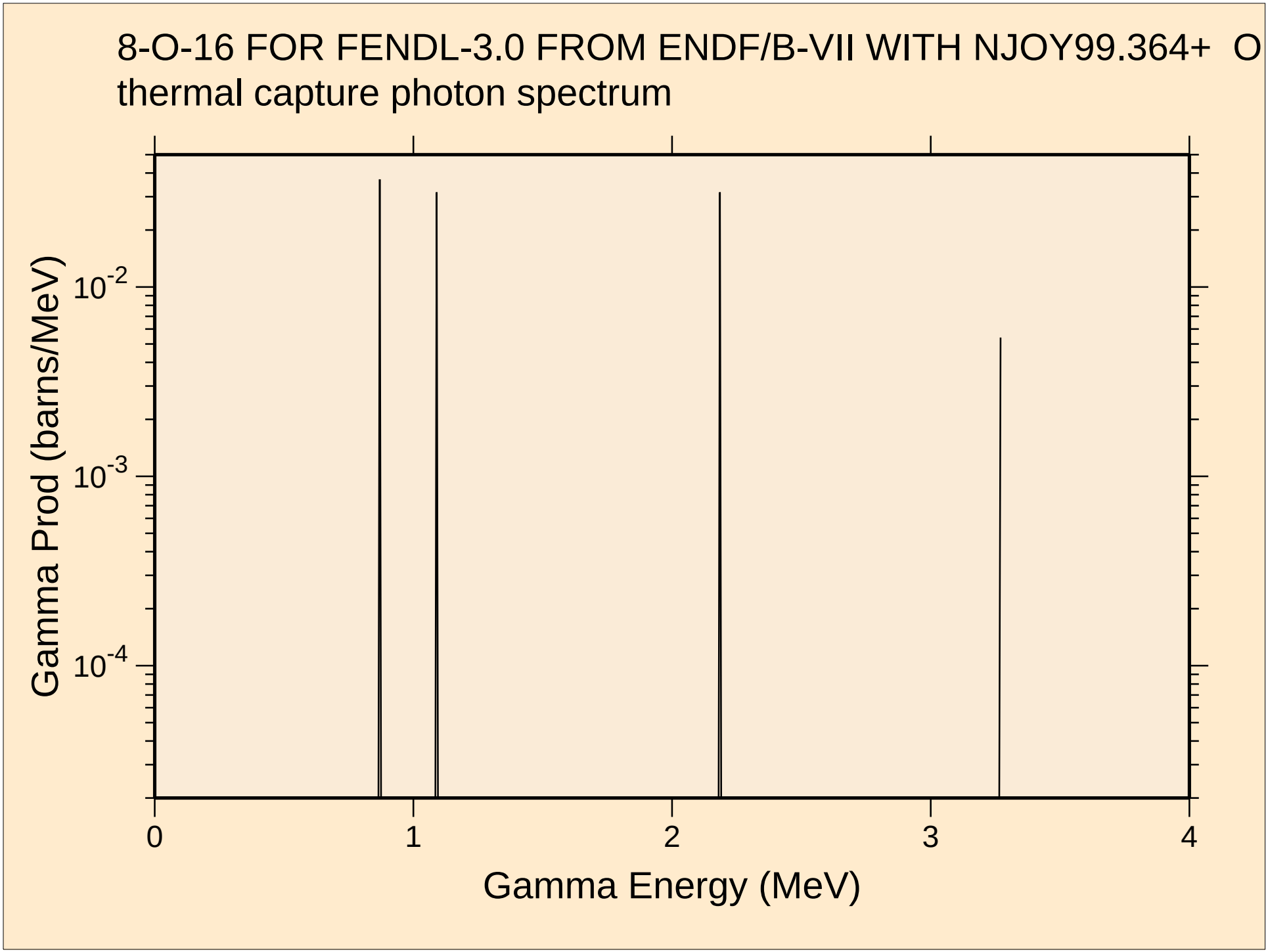

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,npa)
Prob/MeV
10-1
10-3
0
2
4
Eγ (MeV)
24
25
26
27
28
29
30
En (MeV)

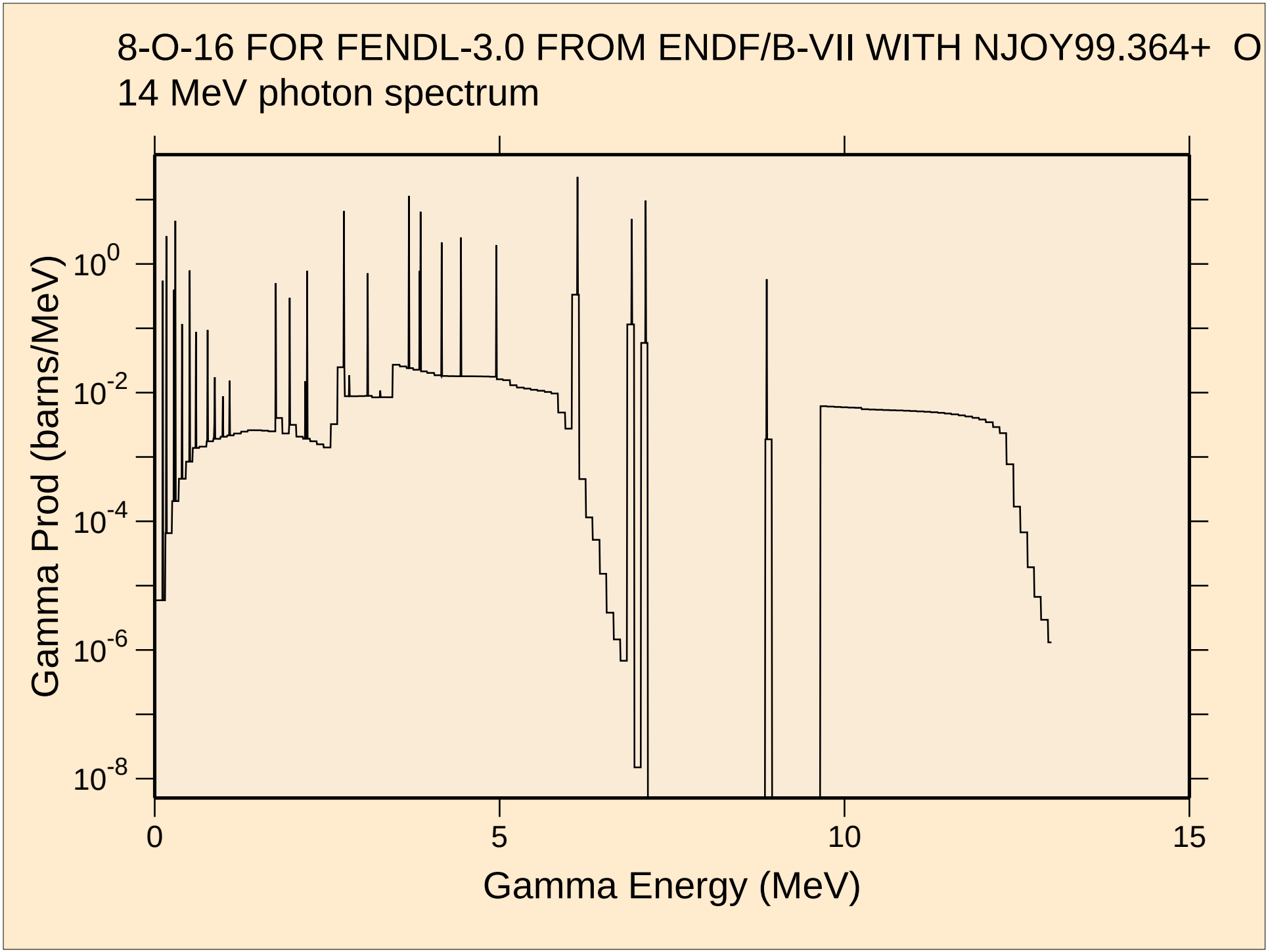

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,n*c)
Prob/MeV
10^-1
10^-3
0
Eγ (MeV)
10
20
10
12
14
16
18
20
22
24
26
28
30
En (MeV)

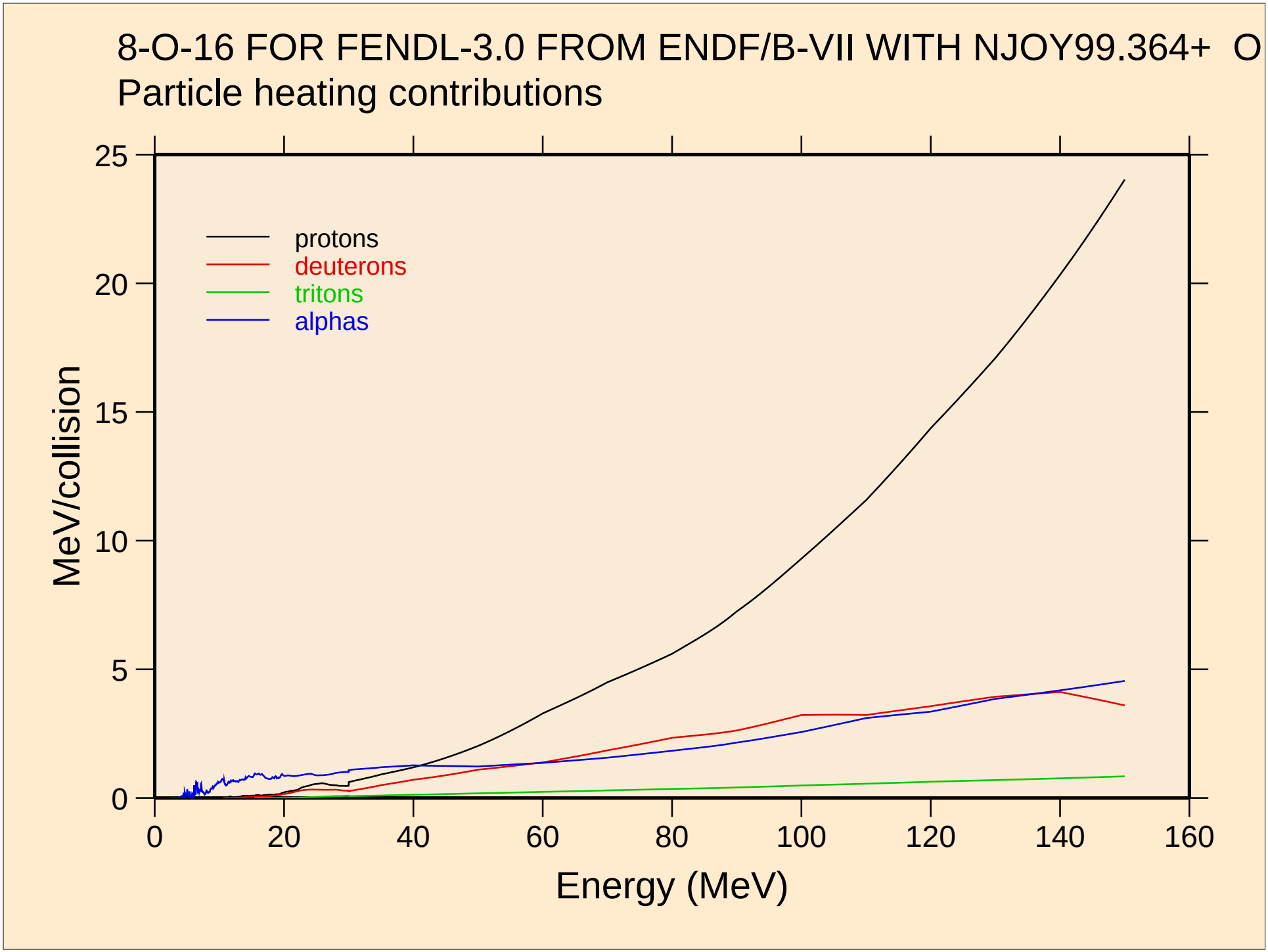

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,2a)
Prob/MeV
10^-1
10^-3
0
Eγ (MeV)
10
20
12
14
16
18
20
22
24
26
28
30
En (MeV)

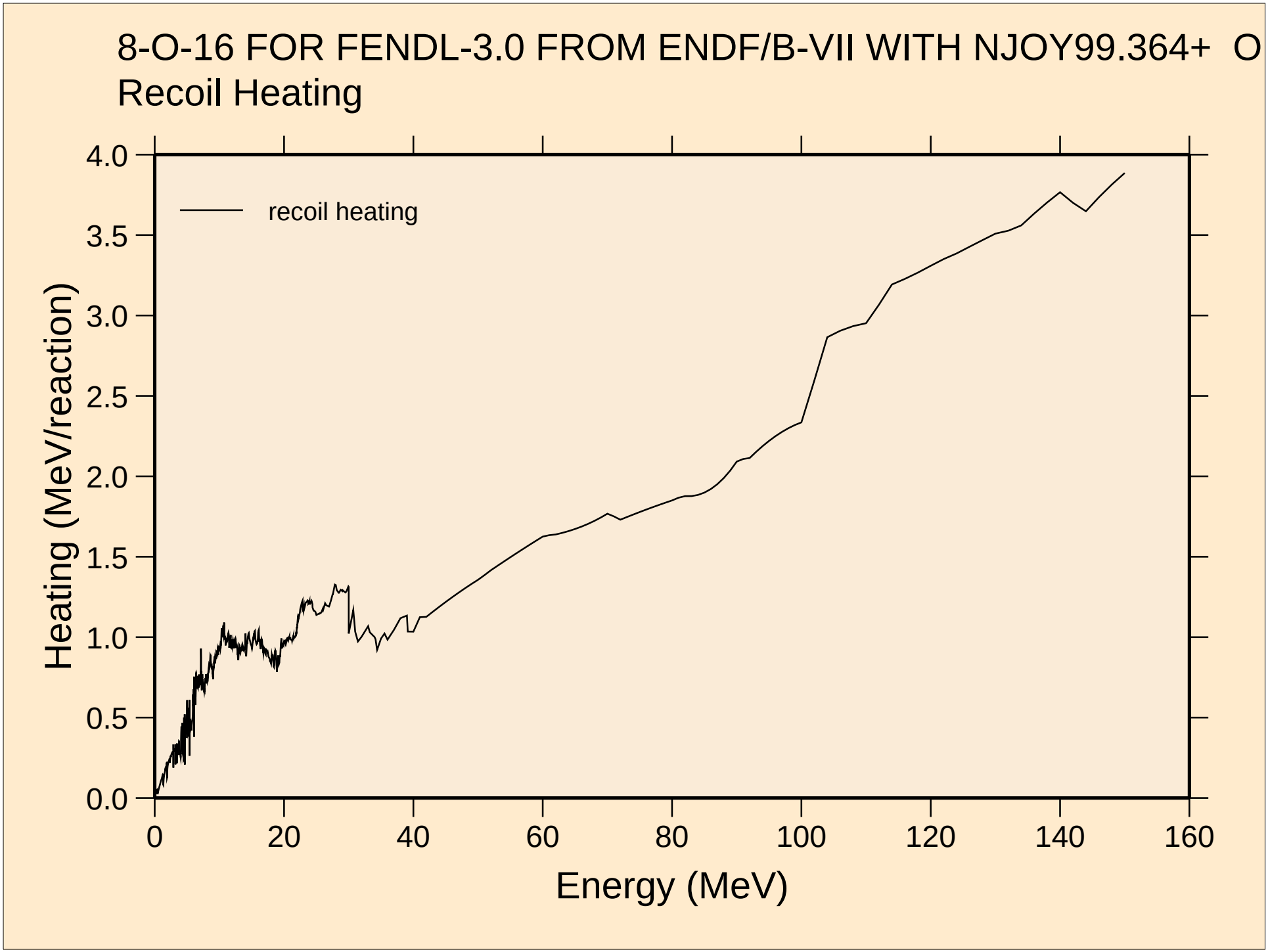

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,pa)
Prob/MeV
10-1
10-3
0
2
4
Eγ (MeV)
20
22
24
26
28
30
En (MeV)

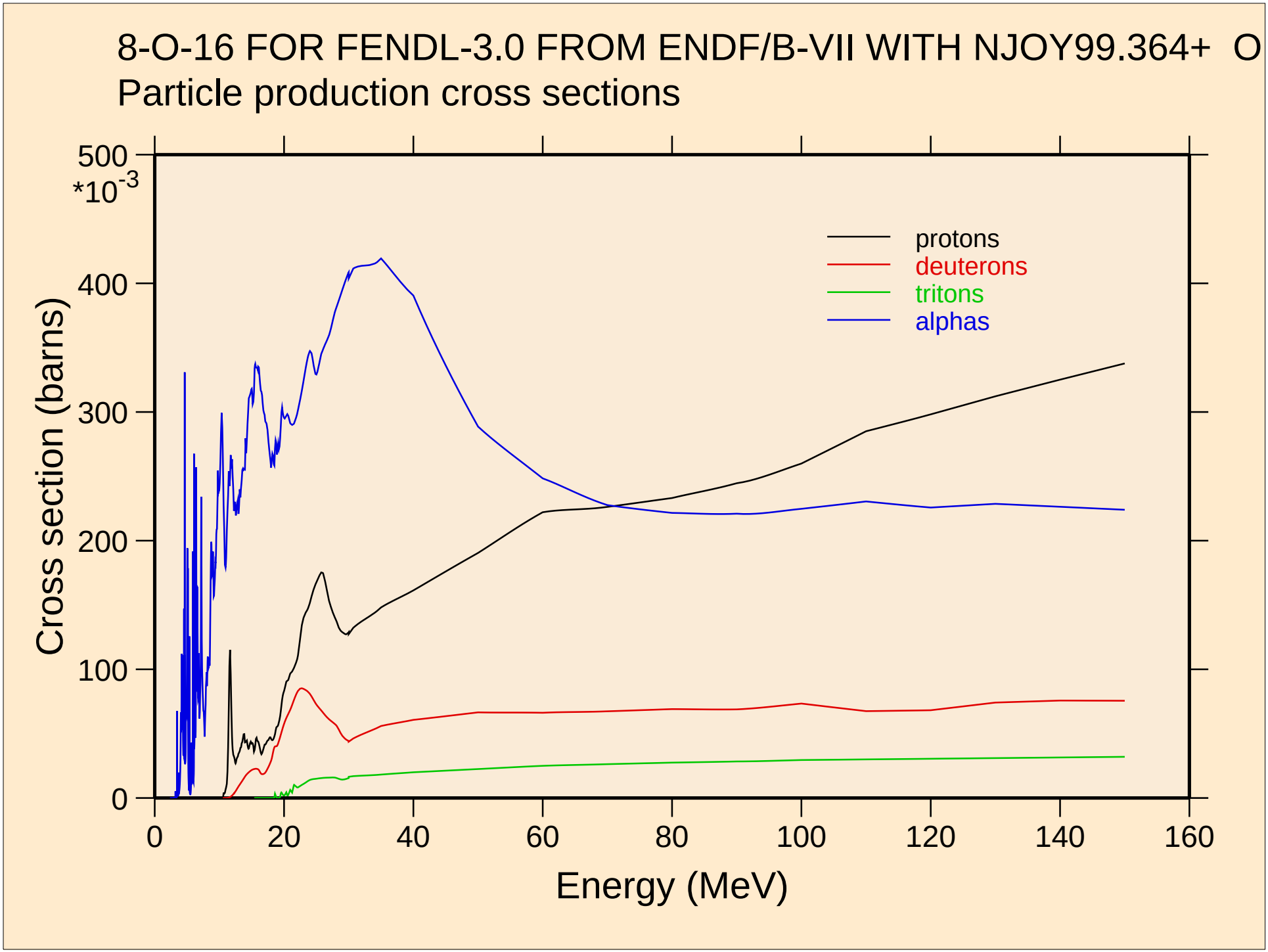

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Photon emission for (n,t*c)
Prob/MeV
10^{0}
10^{-2}
0
10
20
E_γ (MeV)
23
24
25
26
27
28
29
30
E_n (MeV)

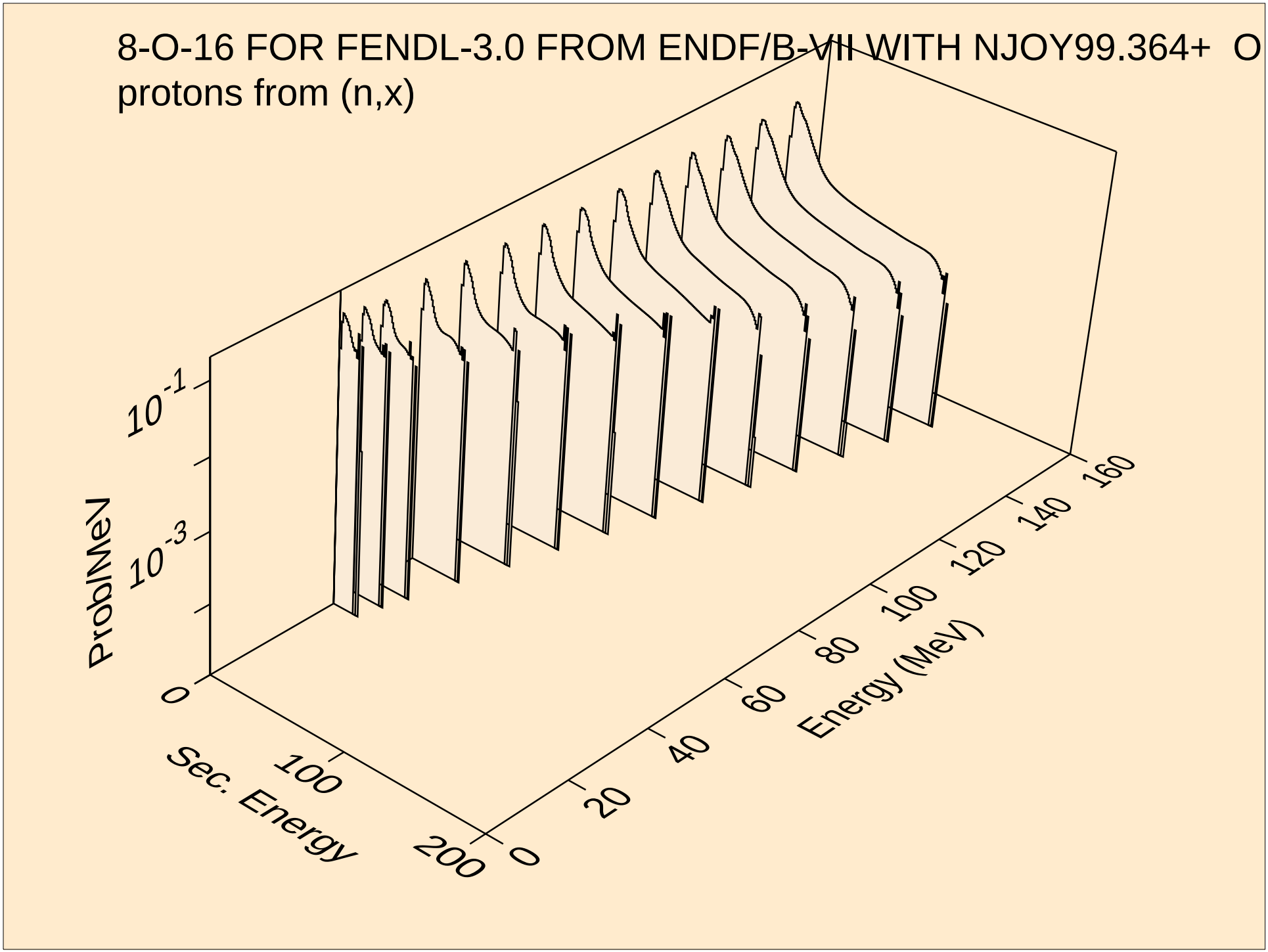

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
thermal capture photon spectrum
Gamma Prod (barns/MeV)
10-2
10-3
10-4
0
1
2
3
4
Gamma Energy (MeV)

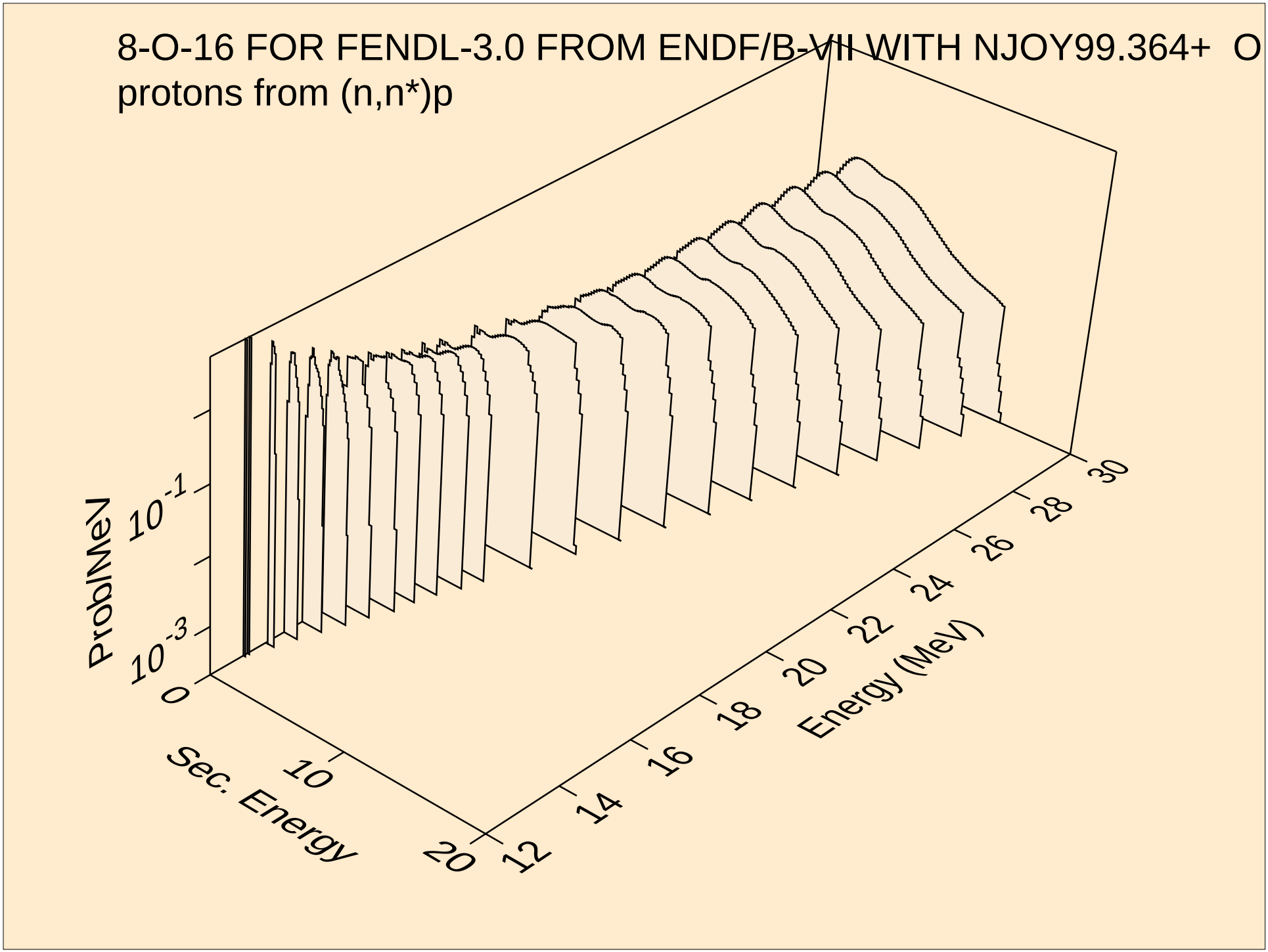

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
14 MeV photon spectrum
Gamma Prod (barns/MeV)
10^0
10^-2
10^-4
10^-6
10^-8
0
5
10
15
Gamma Energy (MeV)

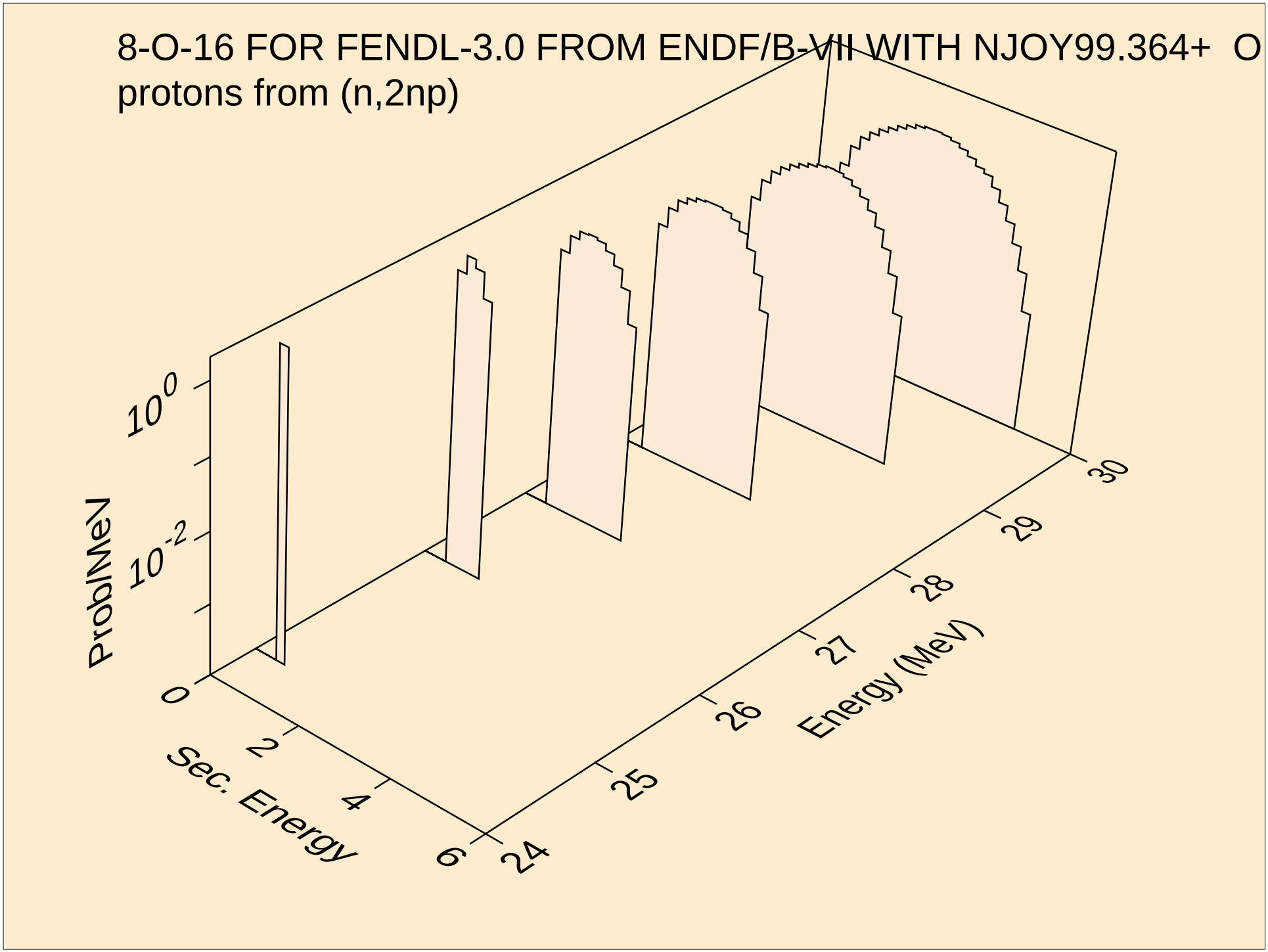

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Particle heating contributions
protons
deuterons
tritons
alphas
MeV/collision
Energy (MeV)
0
5
10
15
20
25
0
20
40
60
80
100
120
140
160

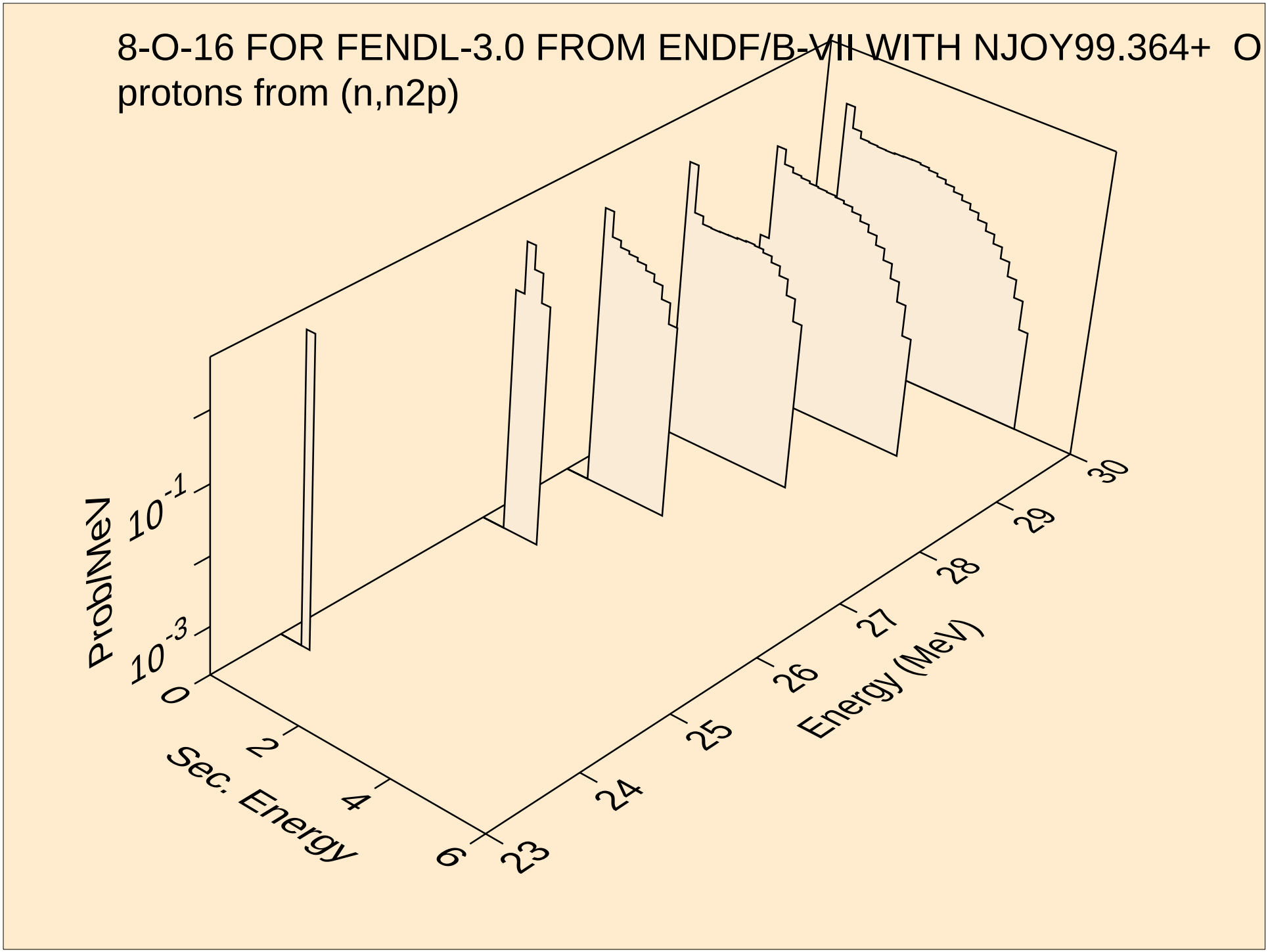

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Recoil Heating
recoil heating
Heating (MeV/reaction)
Energy (MeV)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
0
20
40
60
80
100
120
140
160

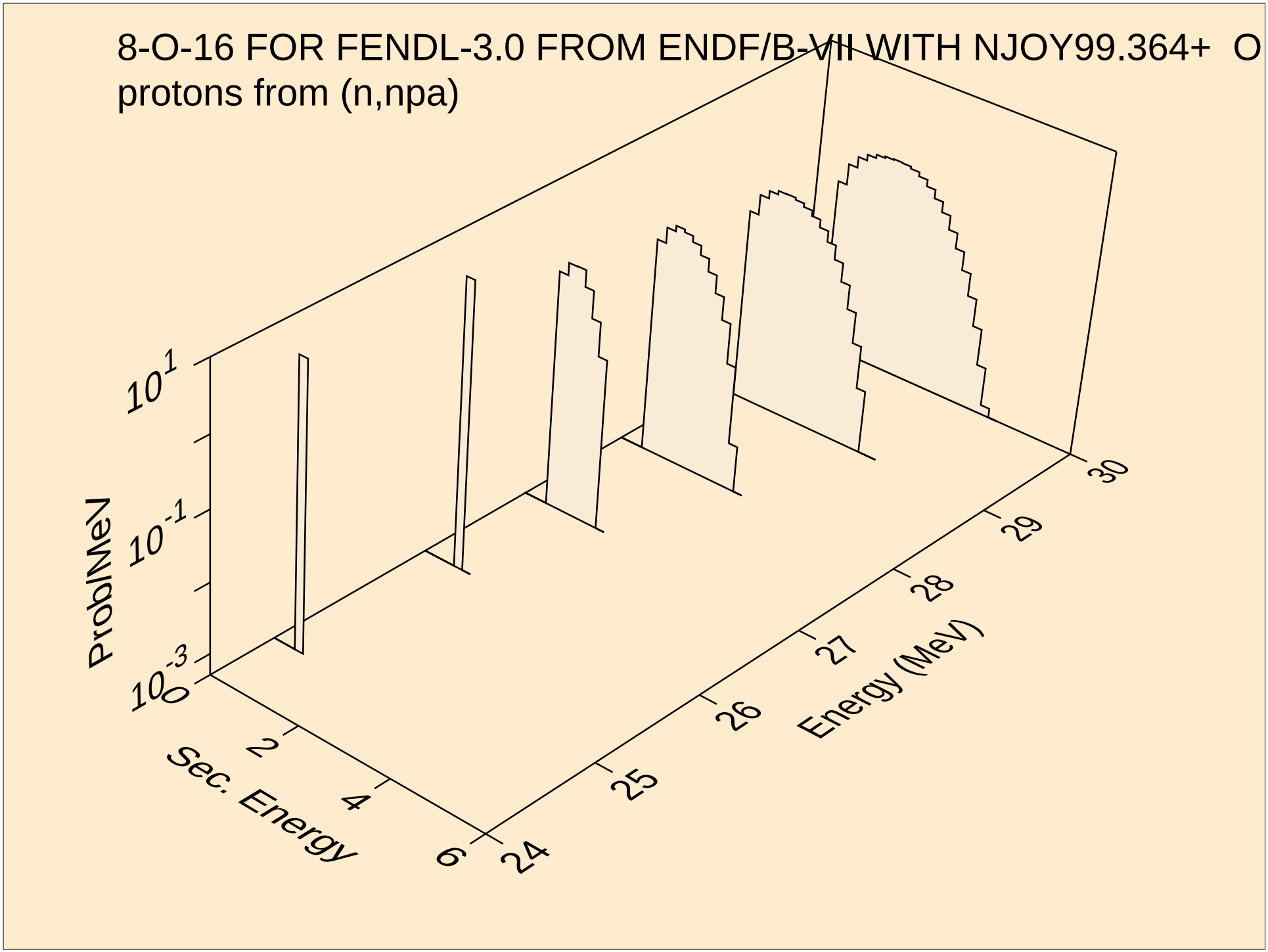

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
Particle production cross sections
Cross section (barns)
*10-3
500
400
300
200
100
0
0
20
40
60
80
100
120
140
160
Energy (MeV)
protons
deuterons
tritons
alphas

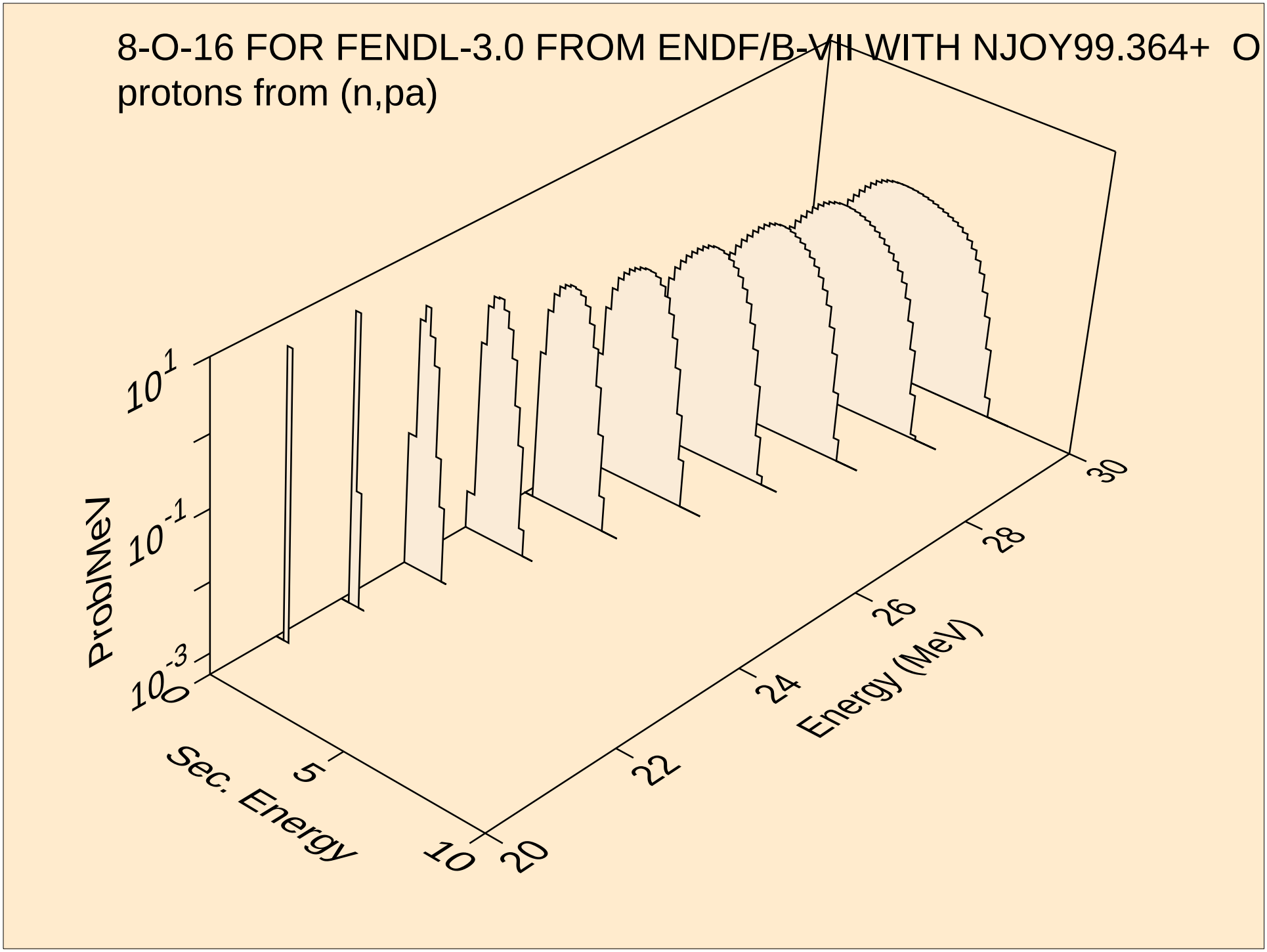

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
protons from (n,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

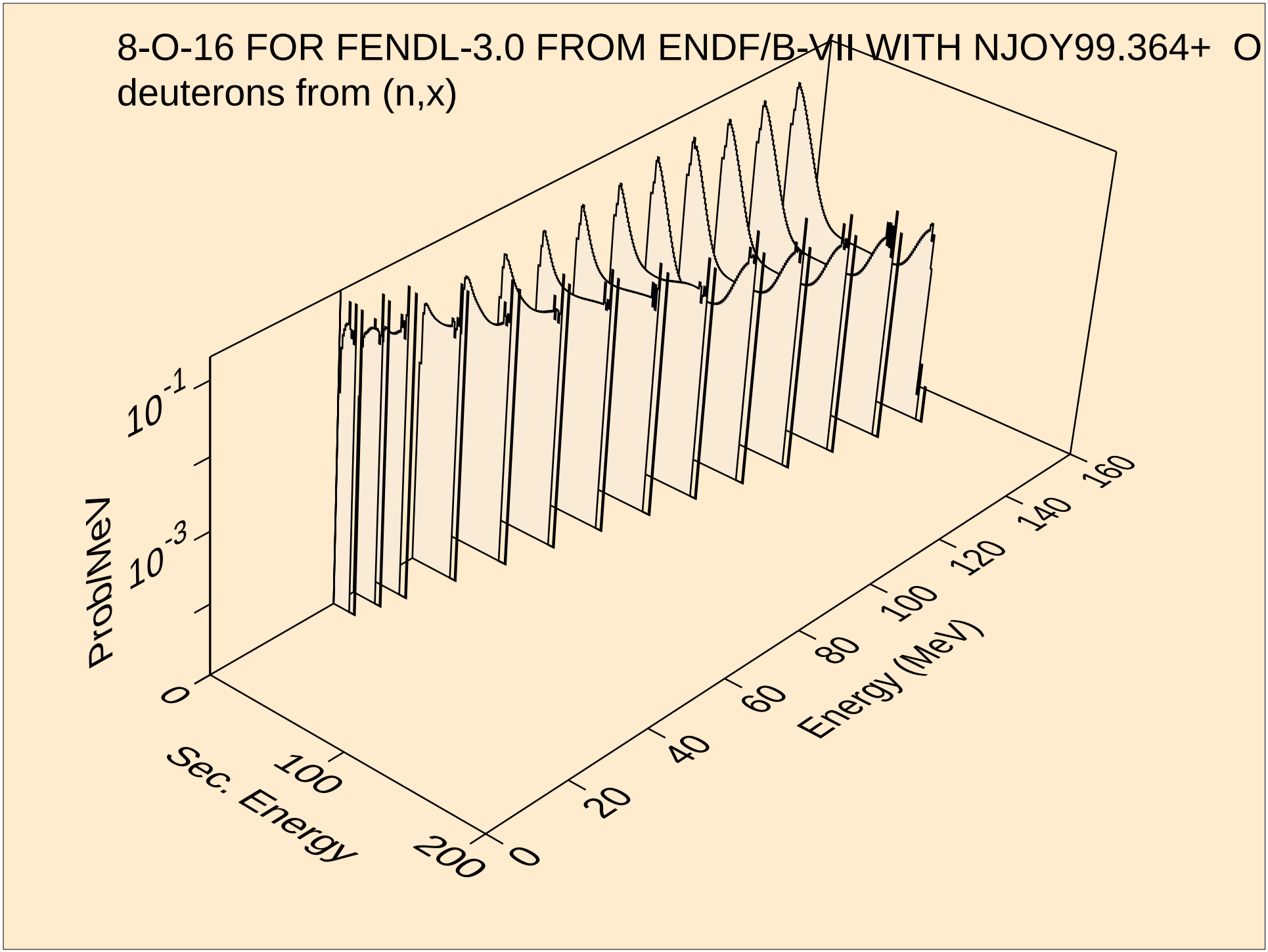

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
protons from (n,n*)p
Prob/MeV
10-1
10-3
0
Sec. Energy
10
20
12
14
16
18
20
22
24
26
28
30
Energy (MeV)

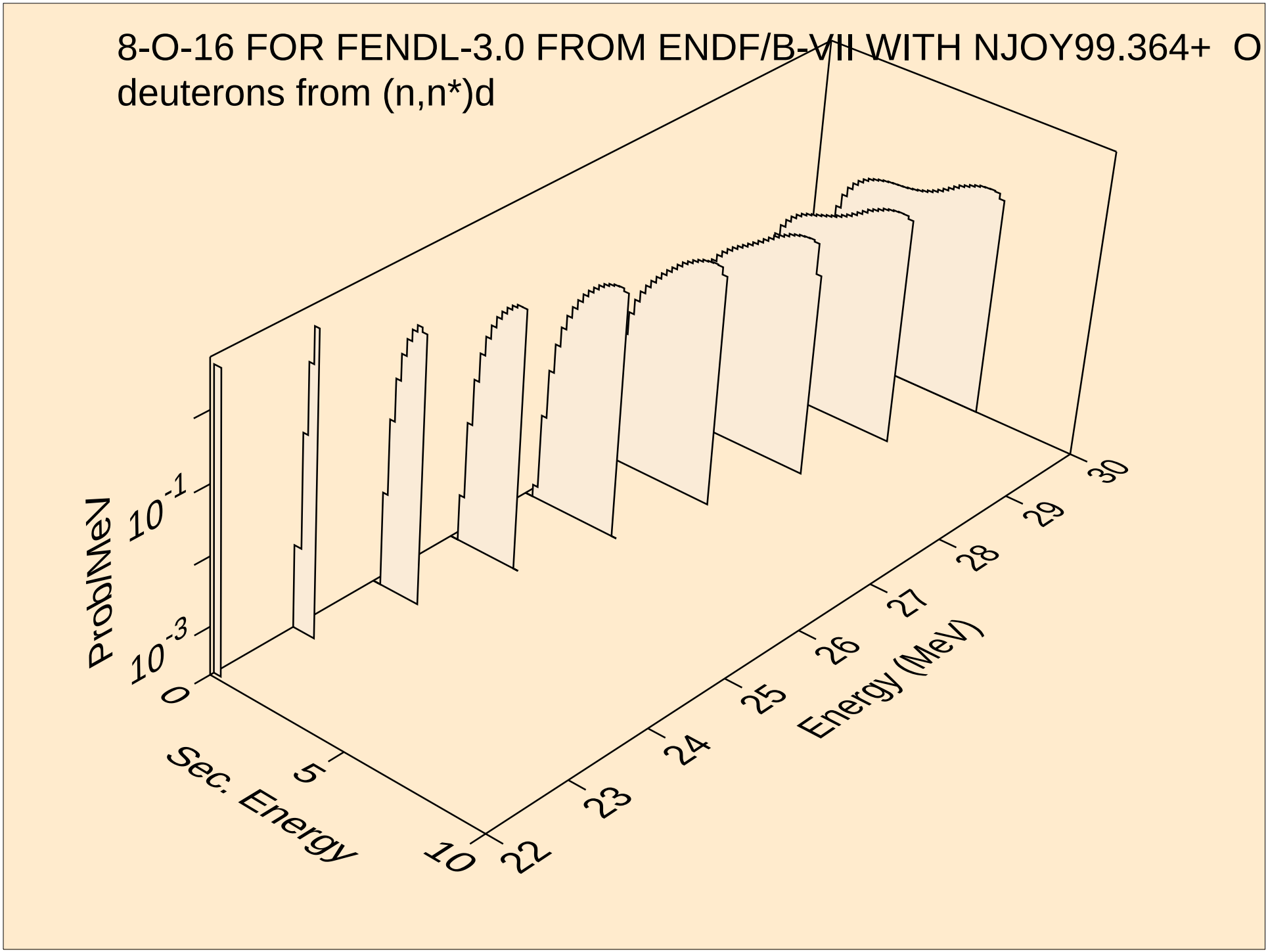

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
protons from (n,2np)
Prob/MeV
10^{0}
10^{-2}
0
2
4
6
Sec. Energy
24
25
26
27
28
29
30
Energy (MeV)

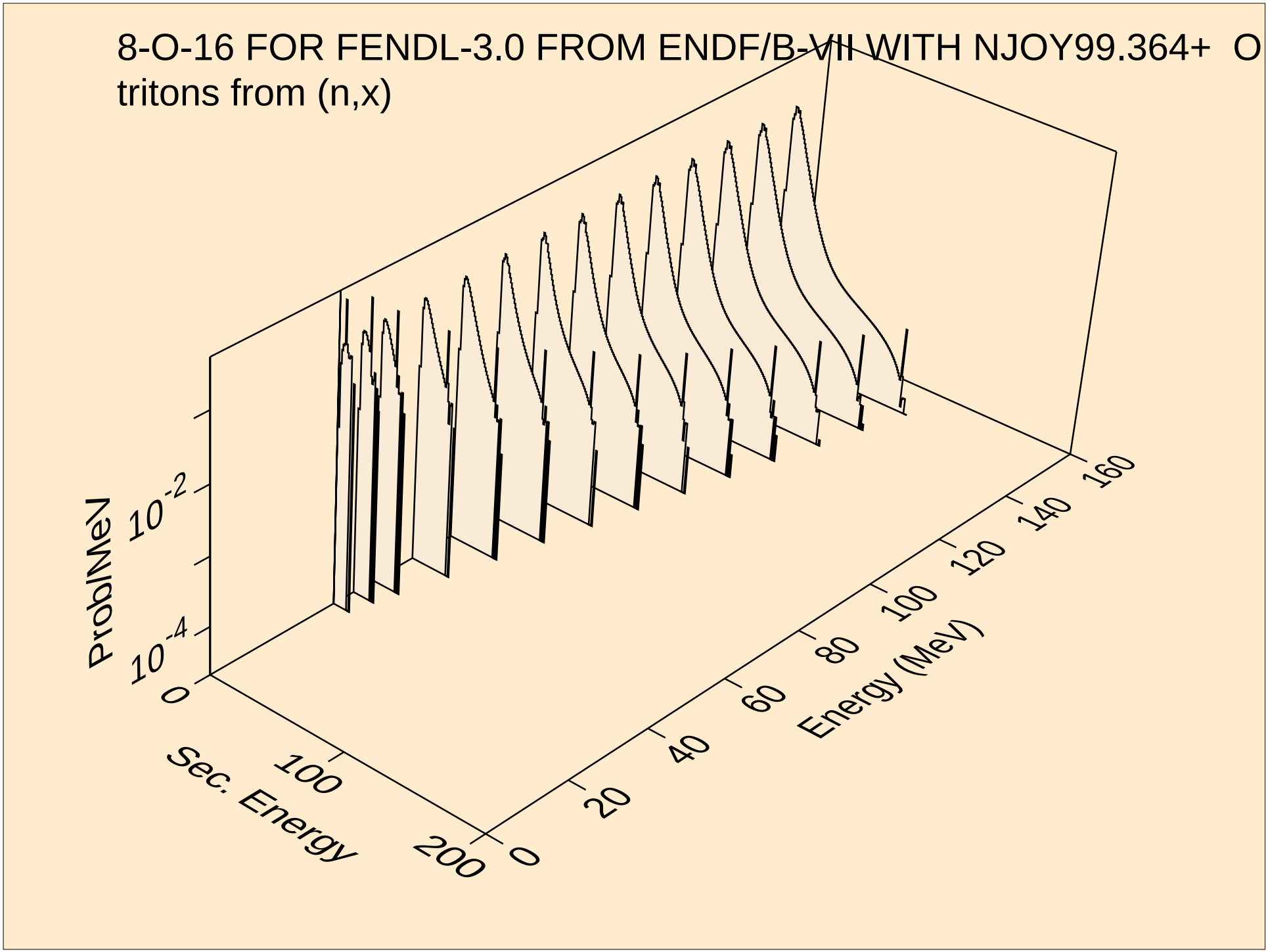

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
protons from (n,n2p)
Prob/MeV
10-1
10-3
0
2
4
6
Sec. Energy
23
24
25
26
27
28
29
30
Energy (MeV)

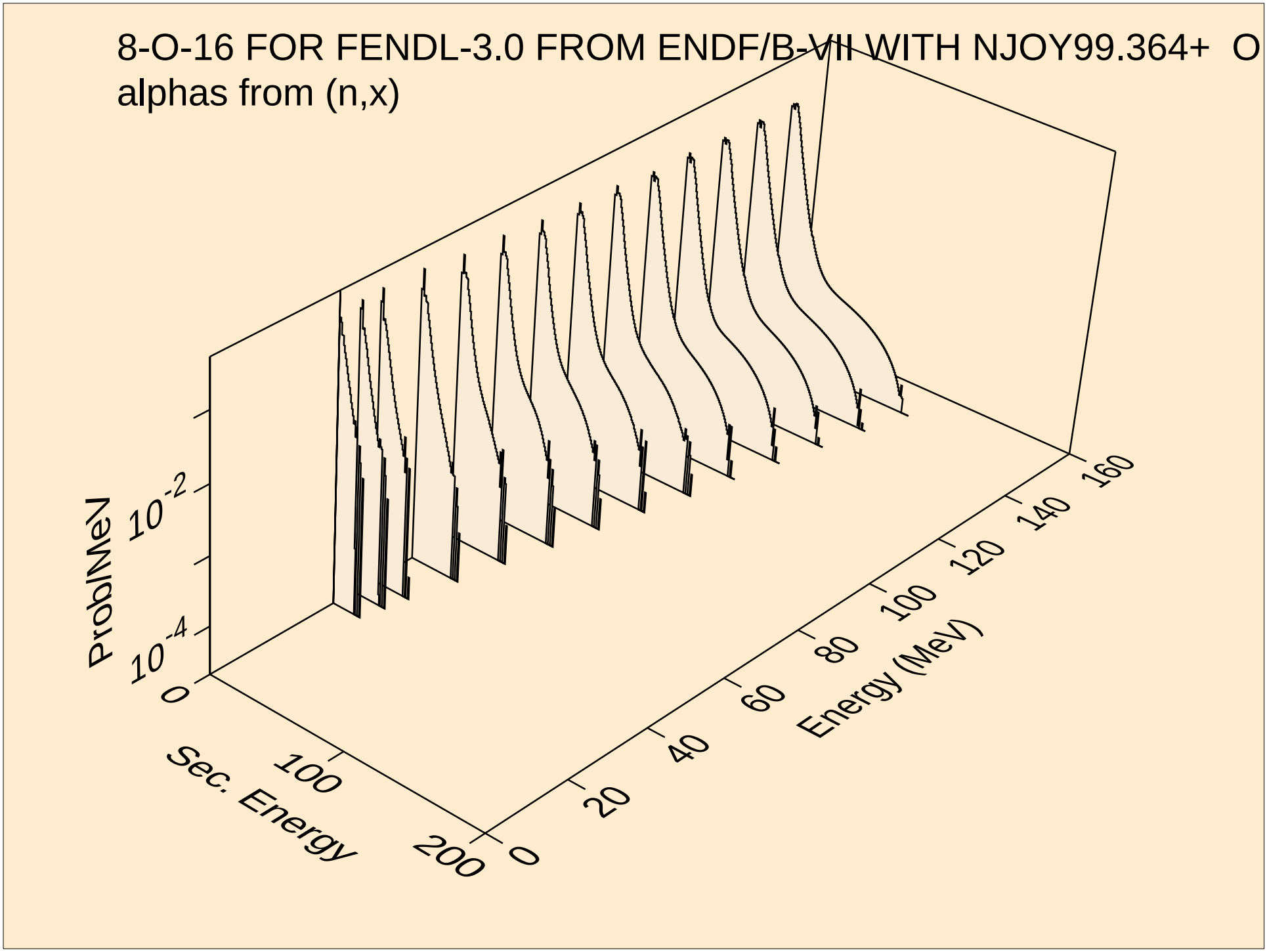

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
protons from (n,npa)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
2
4
6
Sec. Energy
24
25
26
27
28
29
30
Energy (MeV)

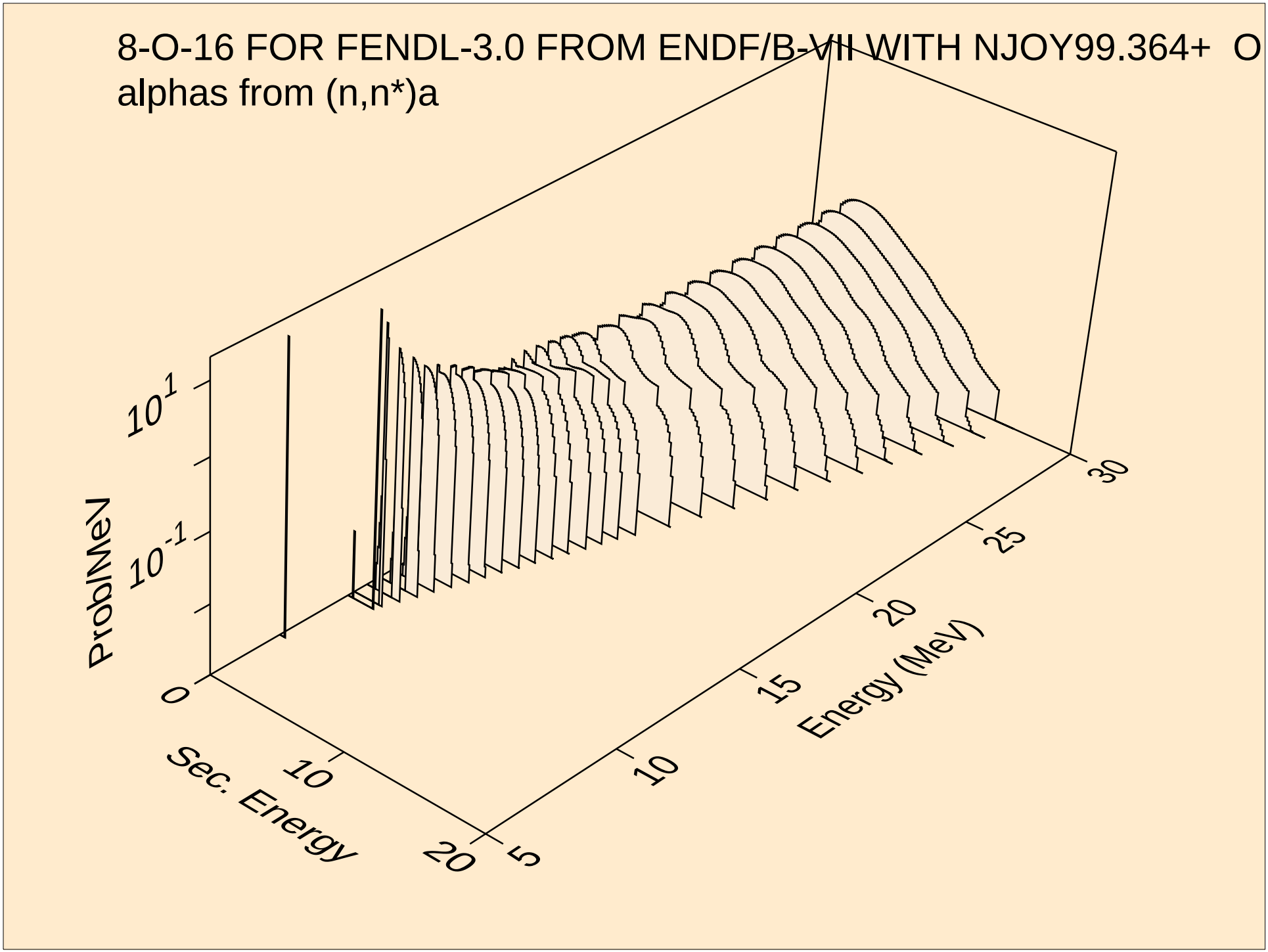

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
protons from (n,pa)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
5
10
20
Sec. Energy
22
24
26
28
30
Energy (MeV)

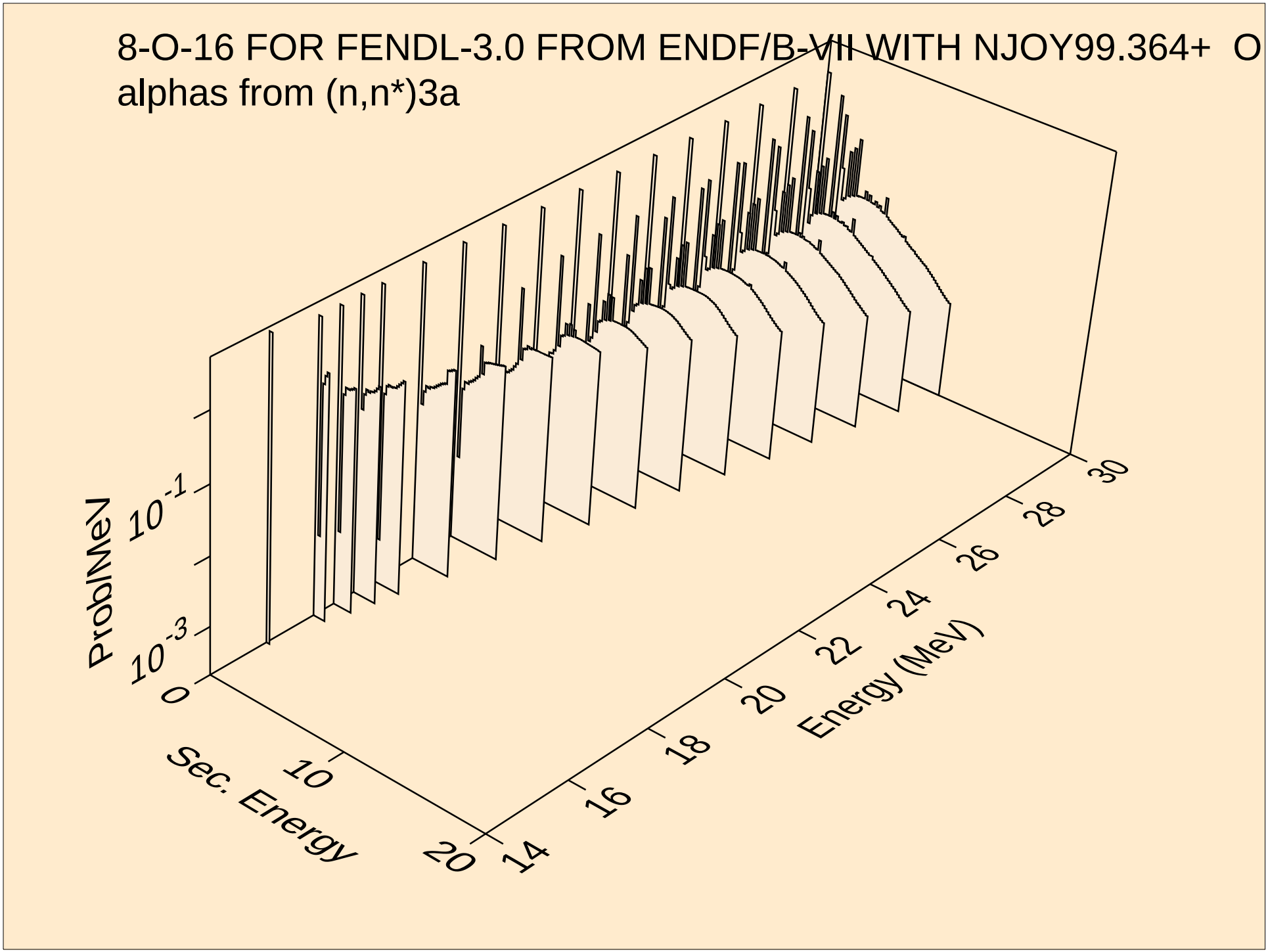

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
deuterons from (n,x)
Prob/MeV
10-1
10-3
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

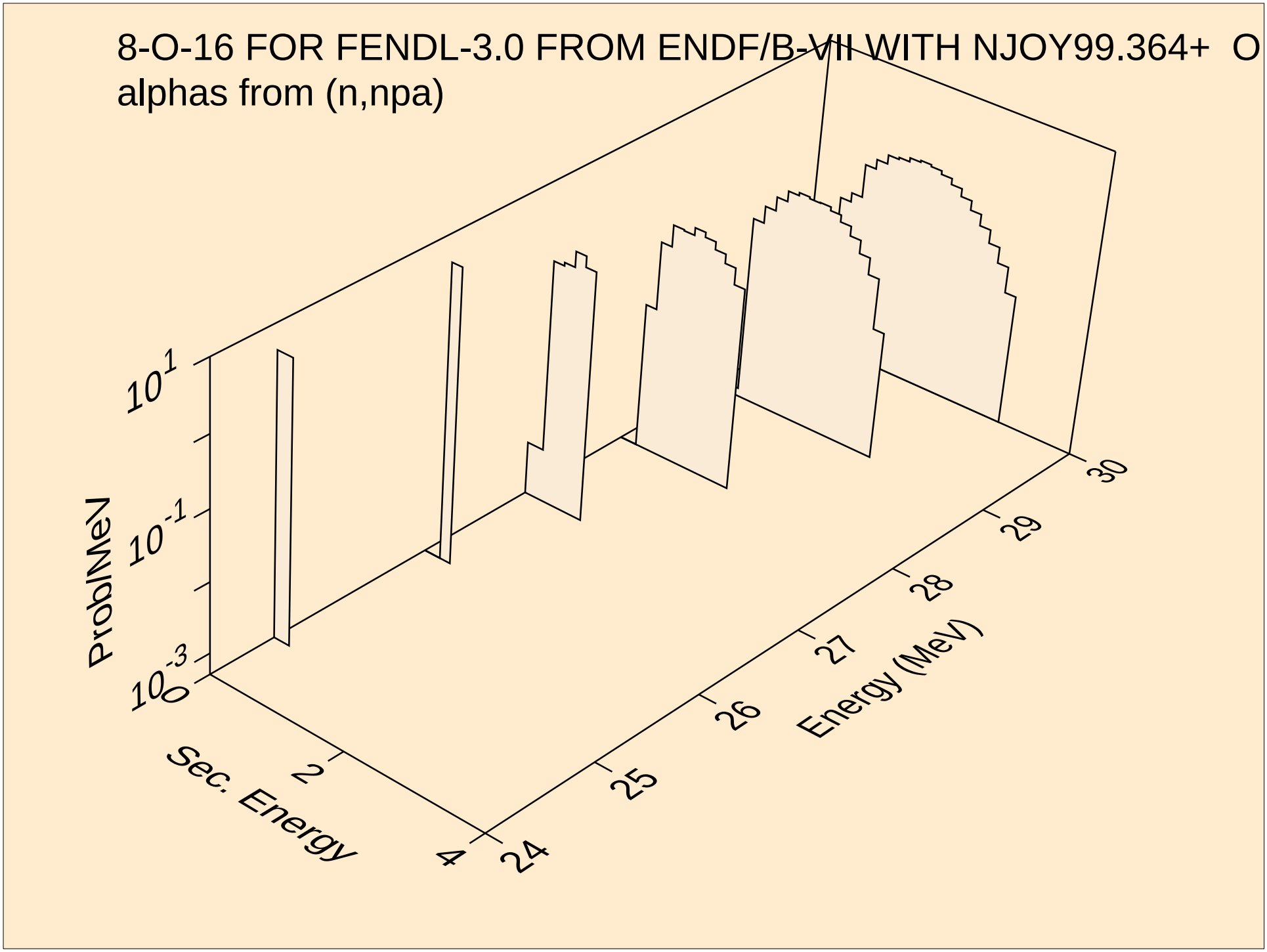

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
deuterons from (n,n*)d
Prob/MeV
10-1
10-3
0
Sec. Energy
5
10
22
23
24
25
26
27
28
29
30
Energy (MeV)

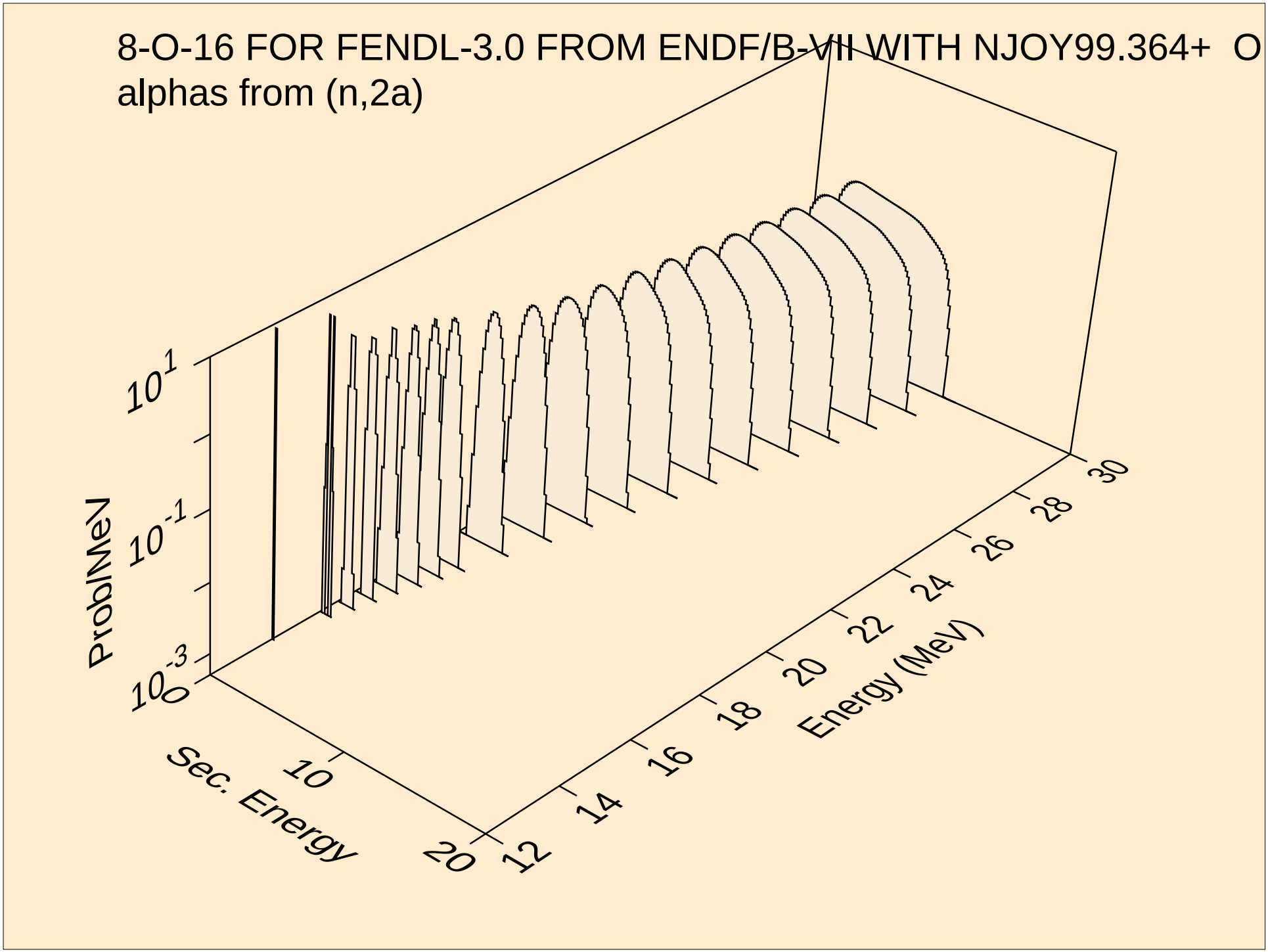

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
tritons from (n,x)
Prob/MeV
10-2
10-4
0
Sec. Energy
100
200
0
20
40
60
80
100
120
140
160
Energy (MeV)

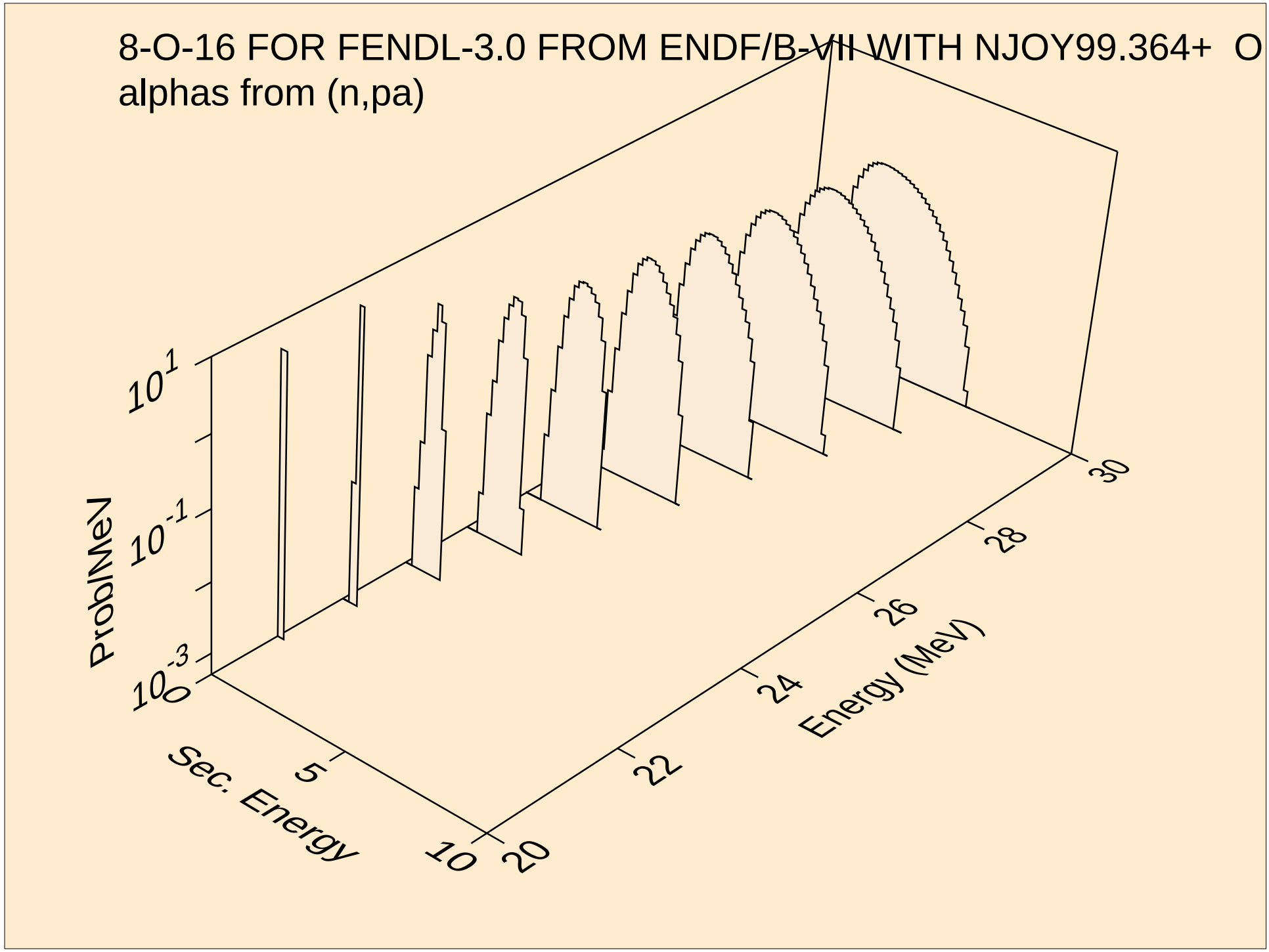

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
alphas from (n,x)
Prob/MeV
10-2
10-4
0
100
200
Sec. Energy
0
20
40
60
80
100
120
140
160
Energy (MeV)

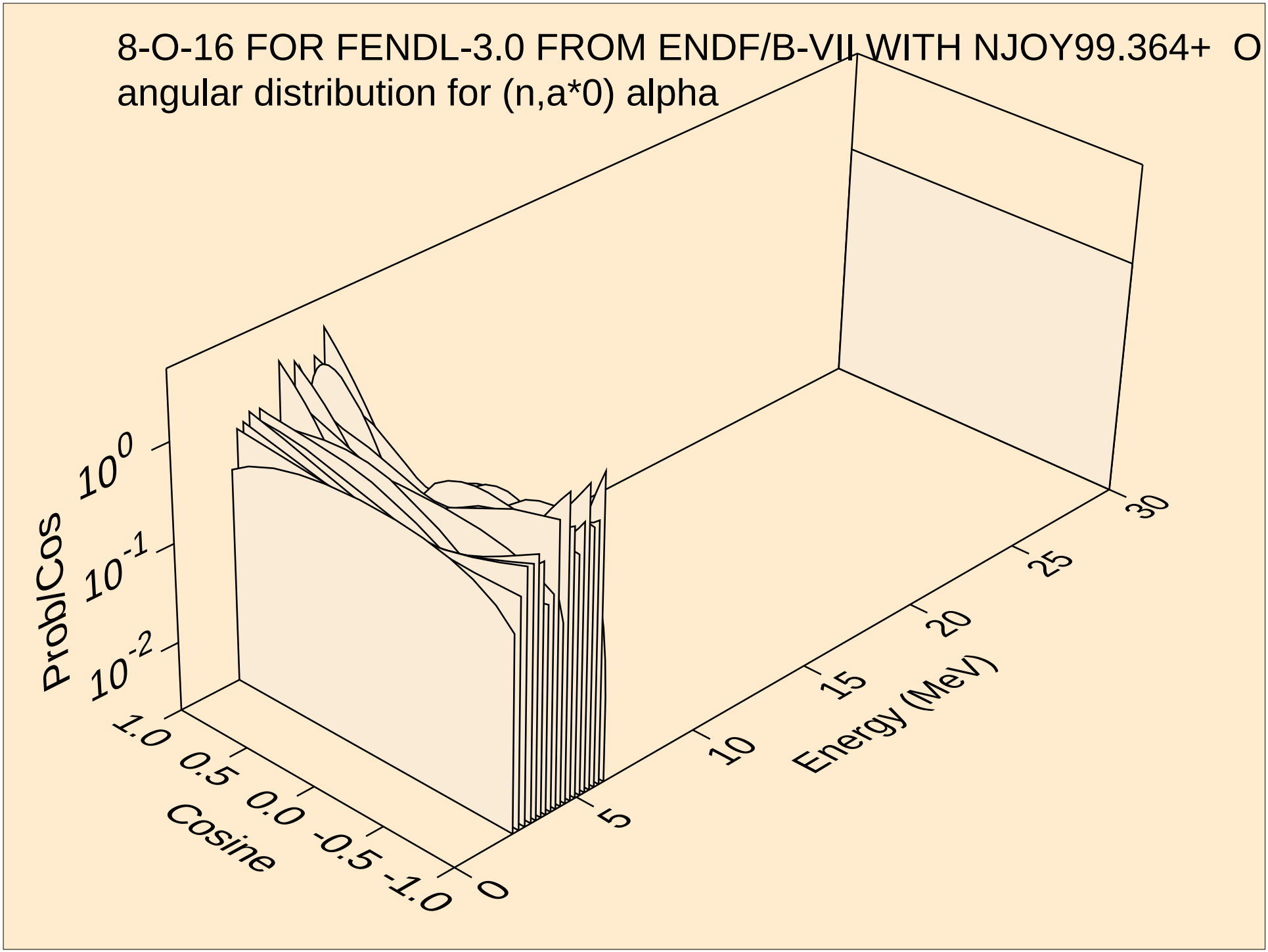

8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
alphas from (n,n*)a
Prob/MeV
10^1
10^-1
0
Sec. Energy
10
20
5
10
15
20
25
30
Energy (MeV)


8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
alphas from (n,n*)3a
Prob/MeV
10-1
10-3
0
Sec. Energy
10
20
14
16
18
20
22
24
26
28
30
Energy (MeV)


8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
alphas from (n,npa)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
Sec. Energy
2
4
Energy (MeV)
24
25
26
27
28
29
30


8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
alphas from (n,2a)
Prob/MeV
10^{1}
10^{-1}
10^{-3}
0
10
20
Sec. Energy
12
14
16
18
20
22
24
26
28
30
Energy (MeV)


8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
alphas from (n,pa)
Prob/MeV
10^1
10^-1
10^-3
0
5
10
20
Sec. Energy
22
24
26
28
30
Energy (MeV)


8-O-16 FOR FENDL-3.0 FROM ENDF/B-VII WITH NJOY99.364+ O
angular distribution for (n,a*0) alpha
ProbCos
10^{0}
10^{-1}
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
Cosine
0
5
10
15
20
25
30
Energy (MeV)