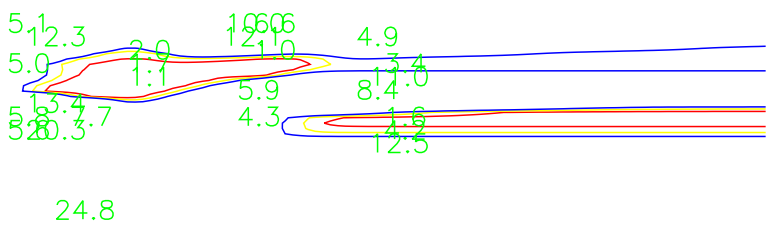
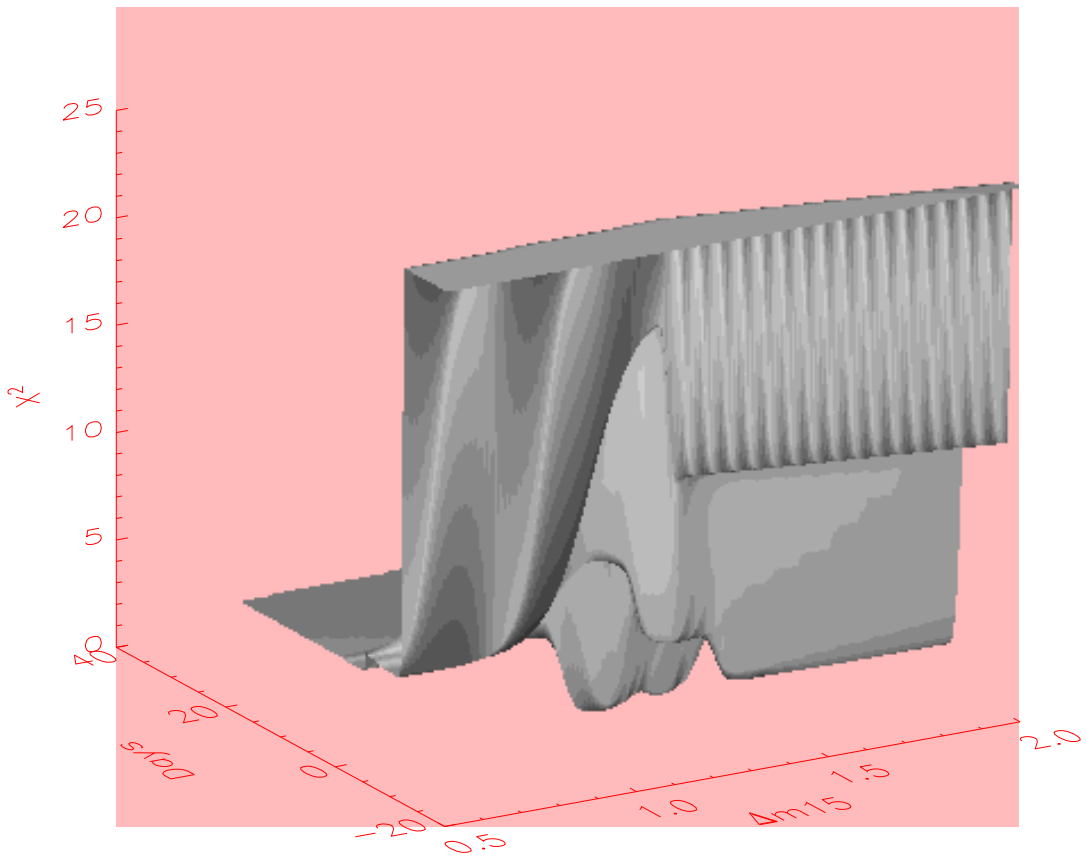
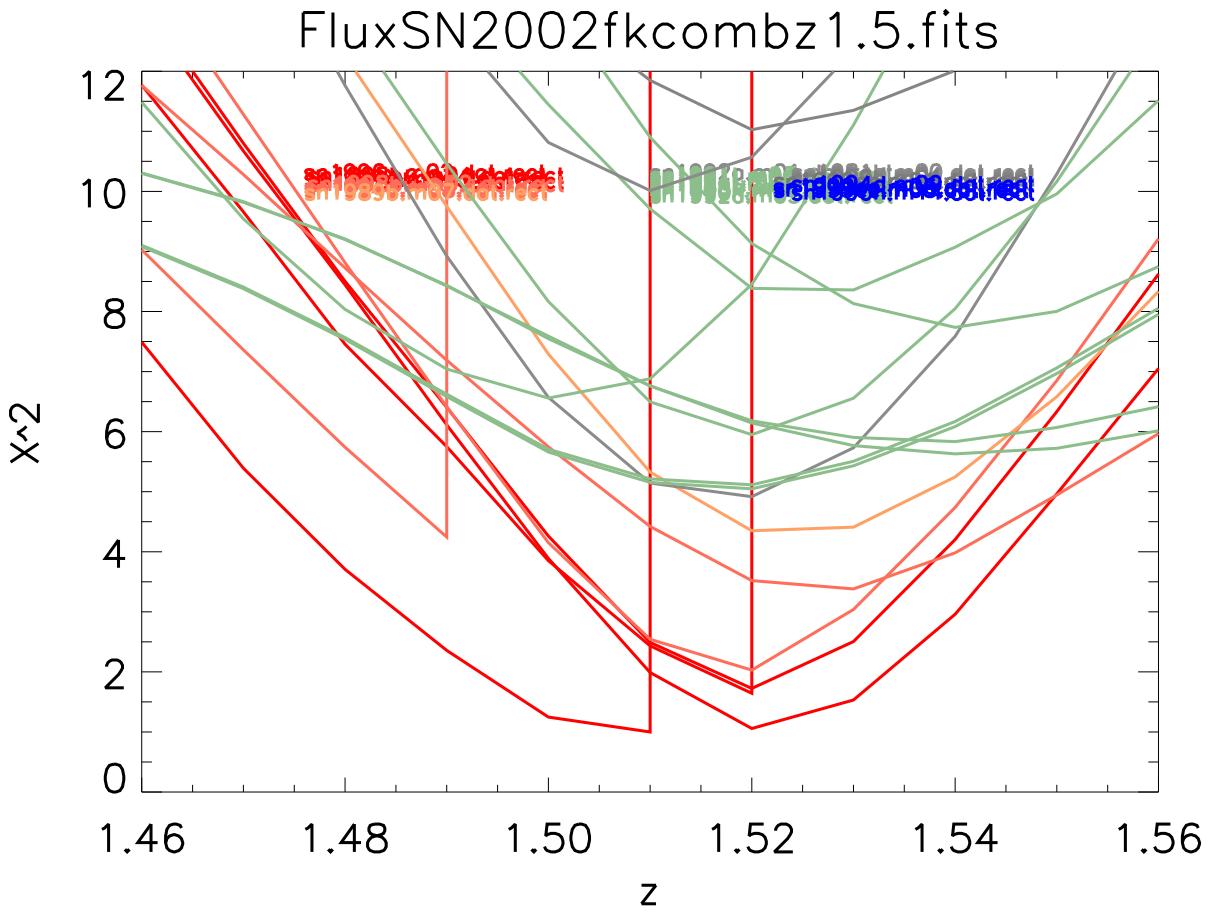
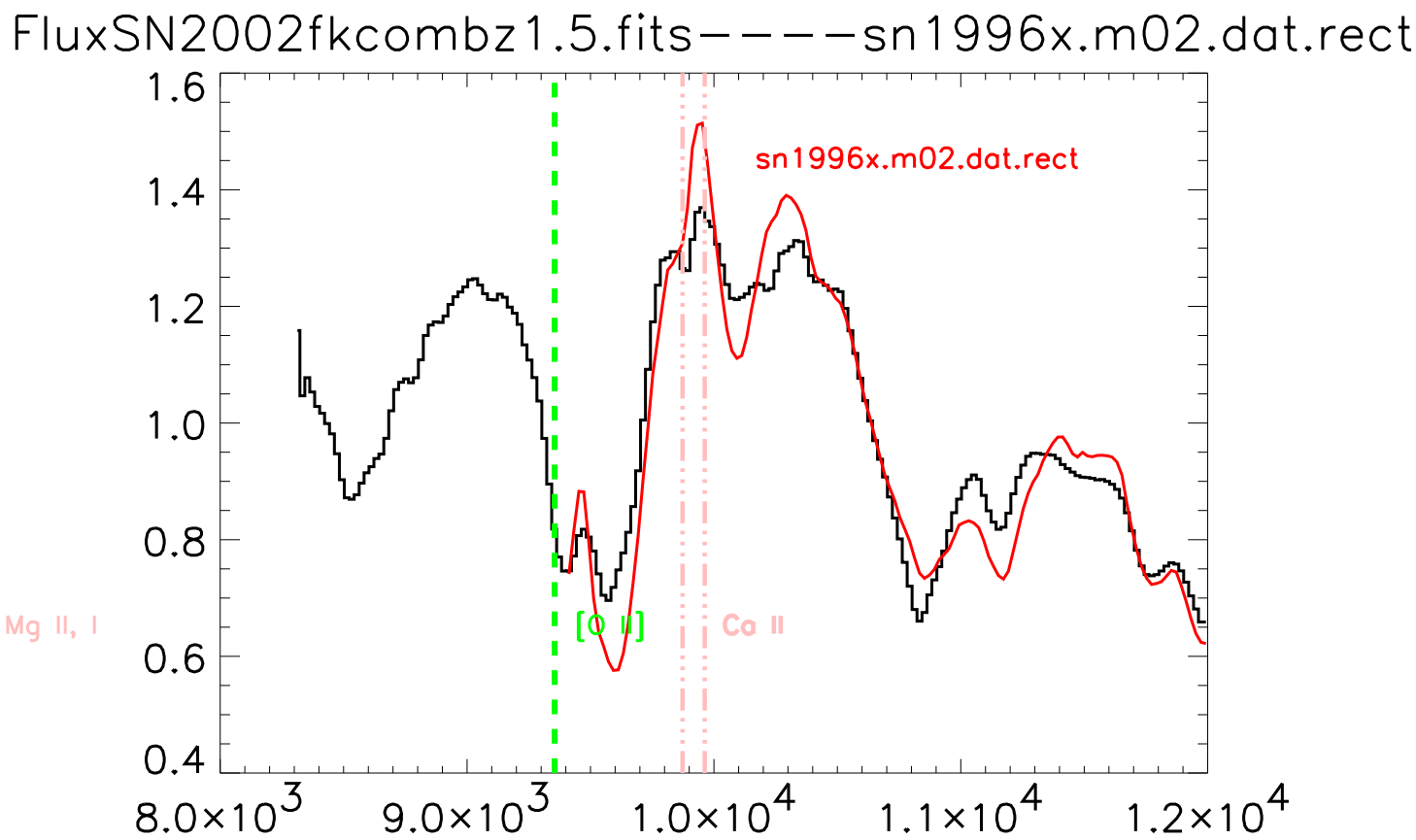
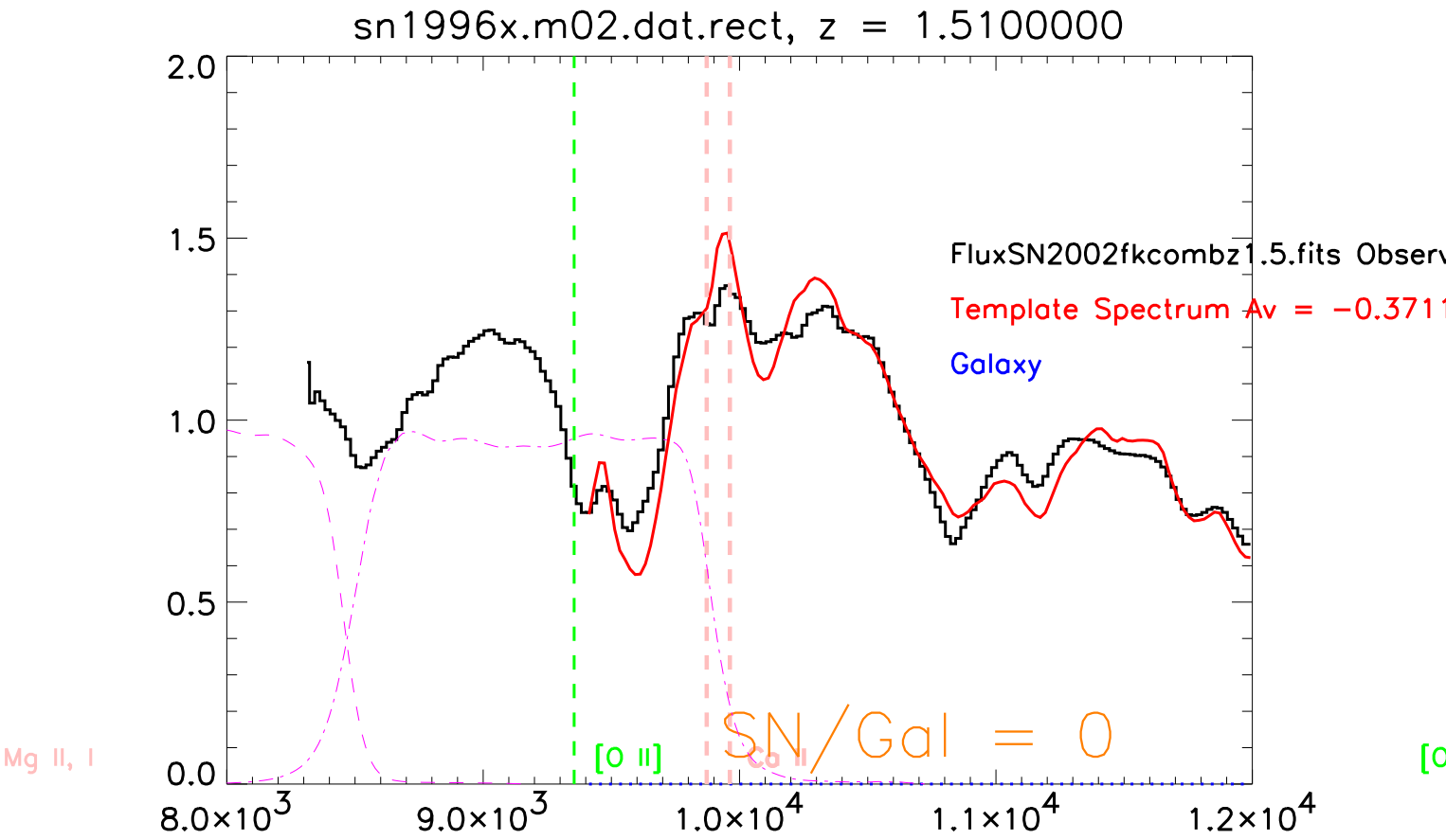

5.1
12.3
5.0
1:1
5.9
4.3
4.9
8.4
12.5
24.8

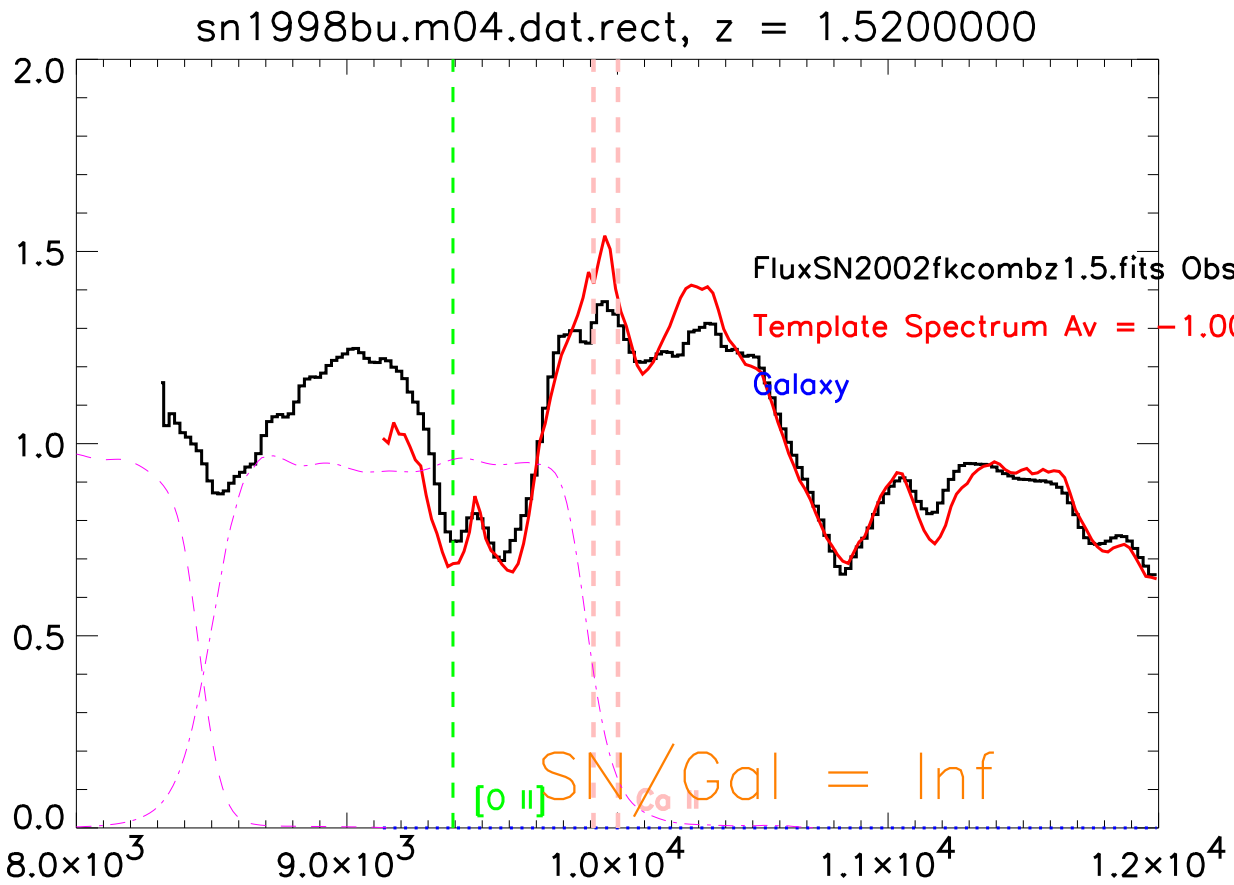


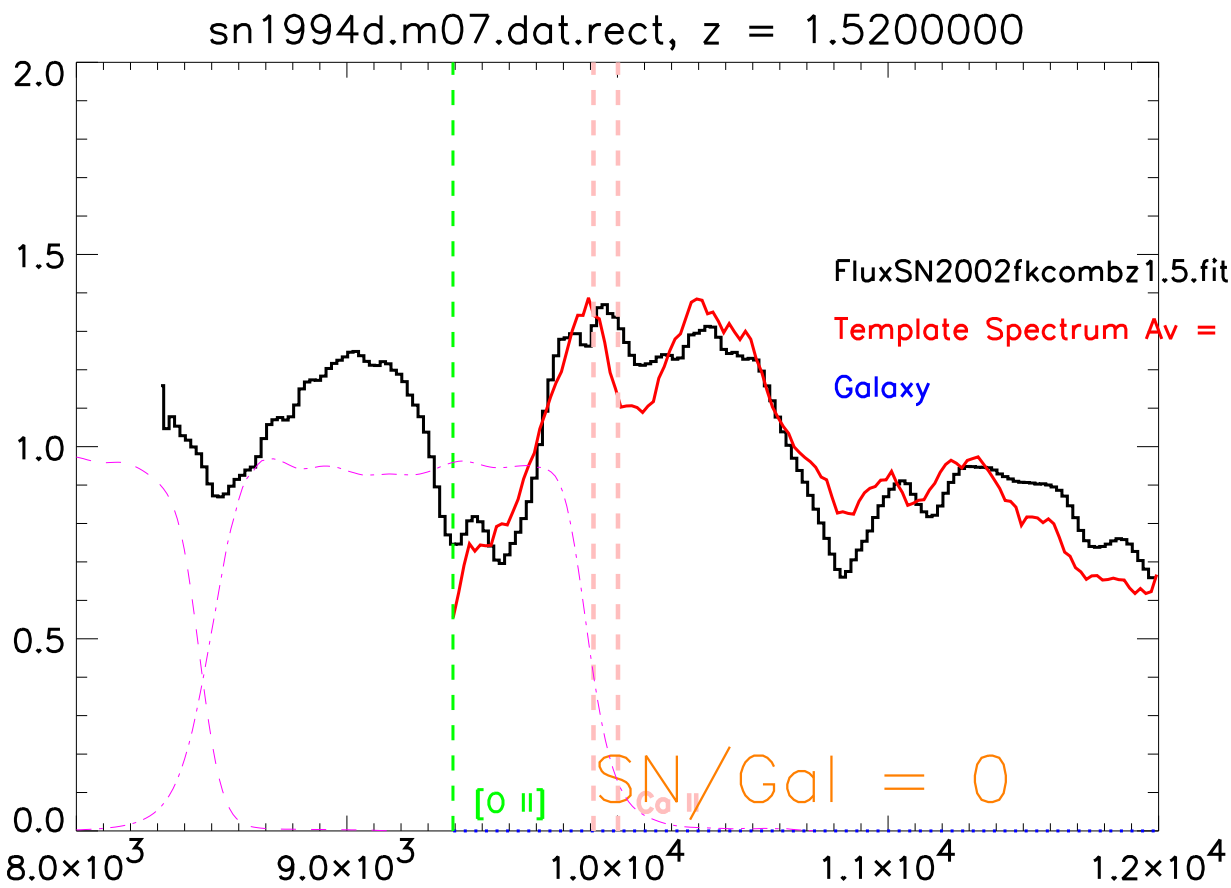
25
20
15
10
5
0
χ^2
40
20
0
−20
Days
0.5
1.0
1.5
2.0
Δm15

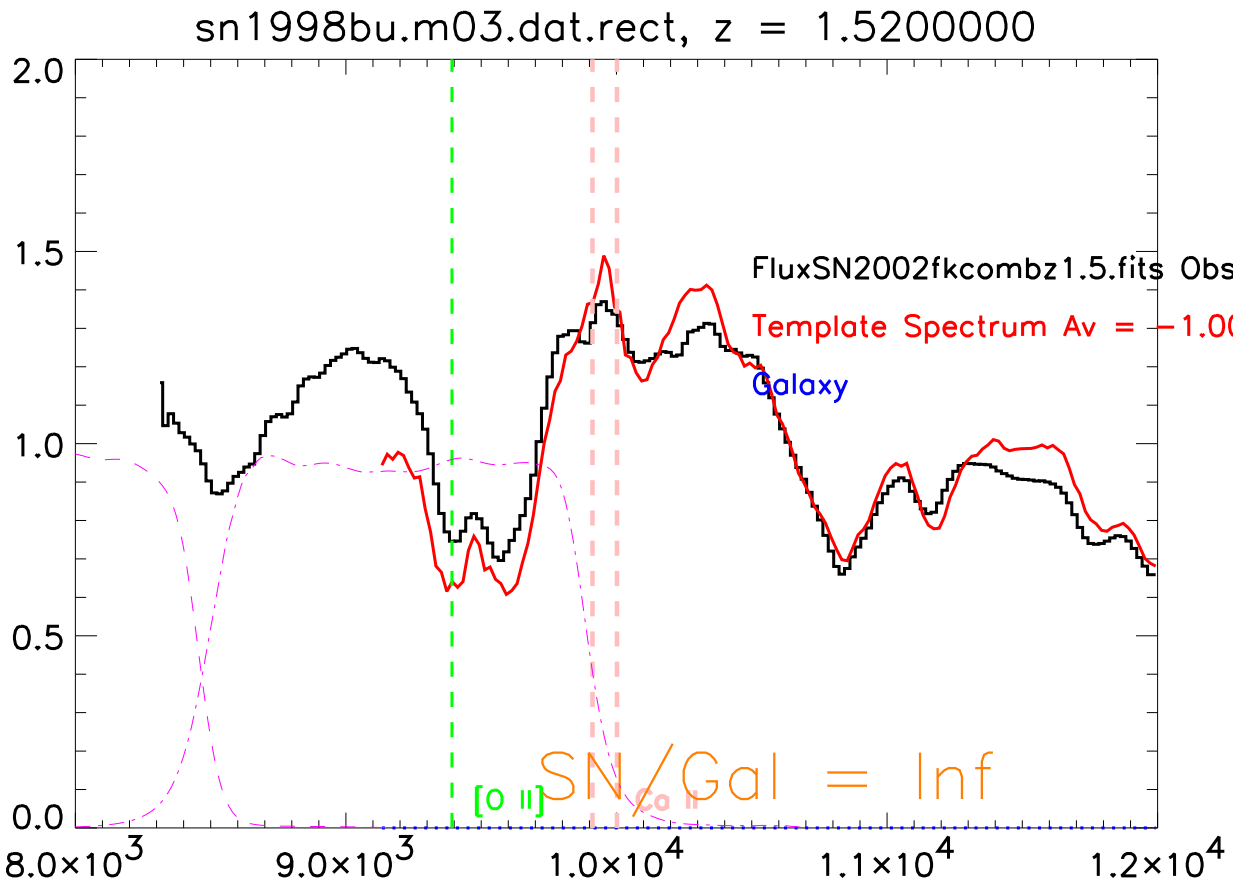

FluxSN2002fkcombz1.5.fits
X^2
z
0
2
4
6
8
10
12
1.46
1.48
1.50
1.52
1.54
1.56

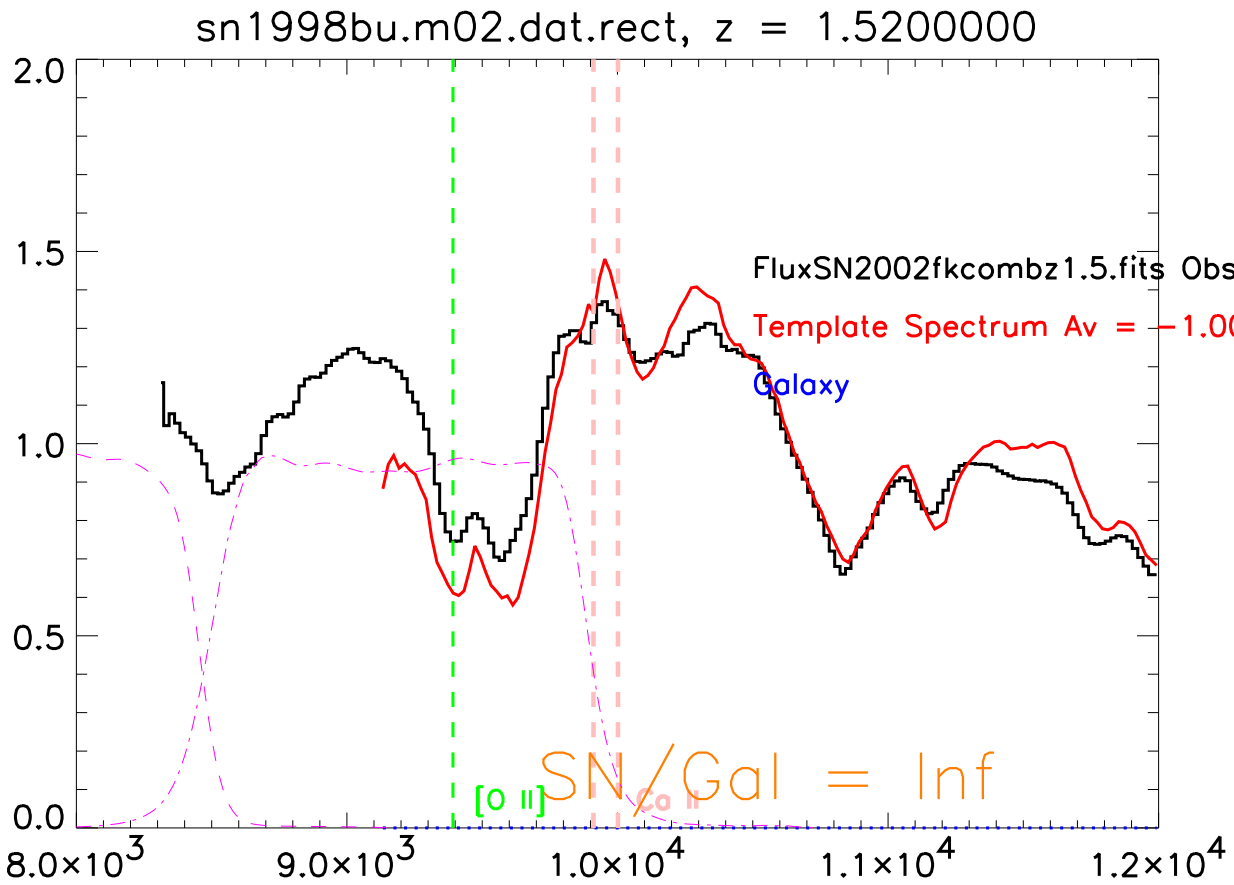

FluxSN2002fkcombz1.5.fits−−−−sn1996x.m02.dat.rect
sn1996x.m02.dat.rect
Mg II, I
[O II]
Ca II
1.6
1.4
1.2
1.0
0.8
0.6
0.4
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

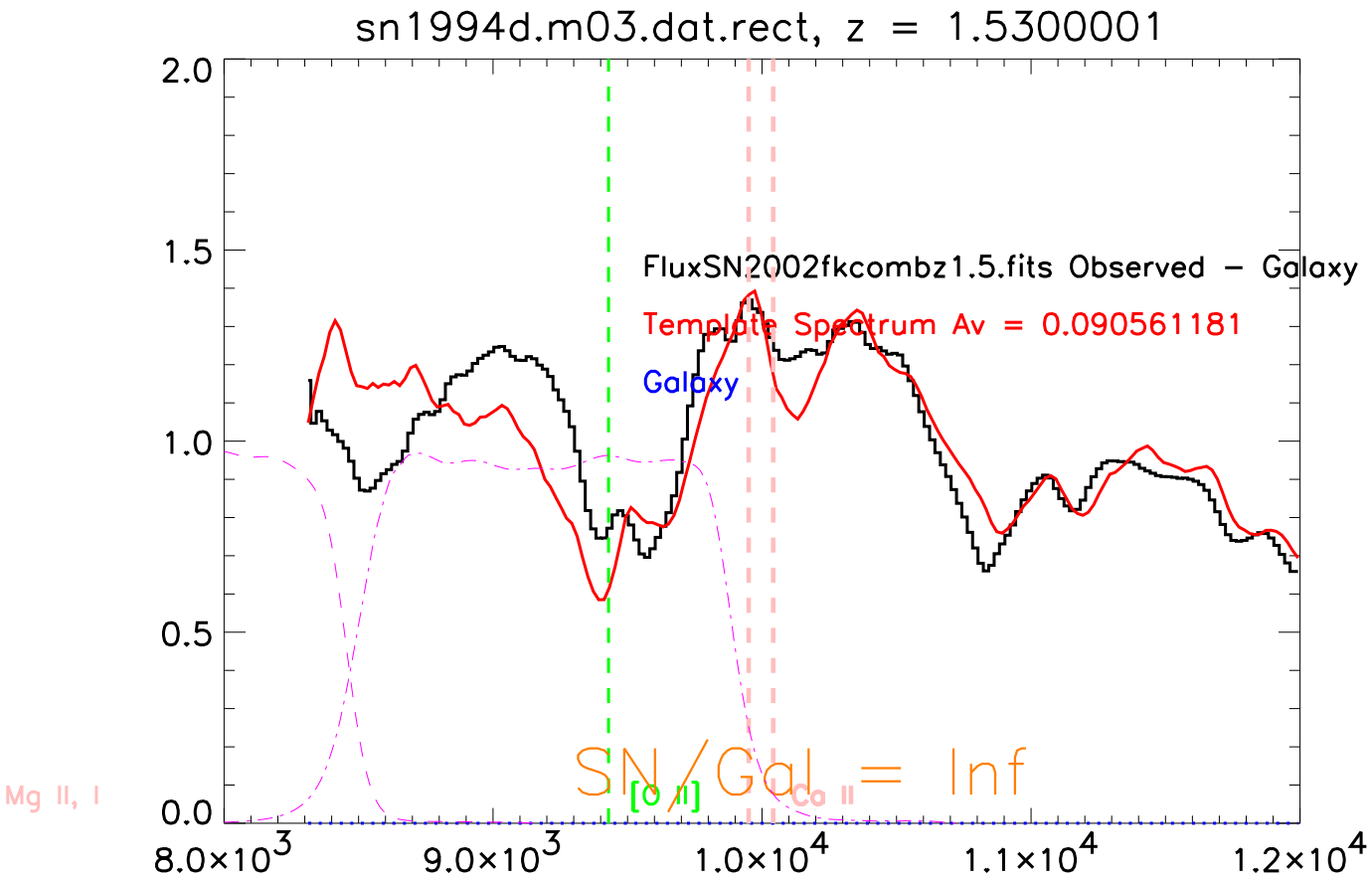

sn1996x.m02.dat.rect, z = 1.5100000
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4
FluxSN2002fkcombz1.5.fits Observ
Template Spectrum Av = −0.371
Galaxy
SN/Gal = 0
[O II]
Mg II, I
[C

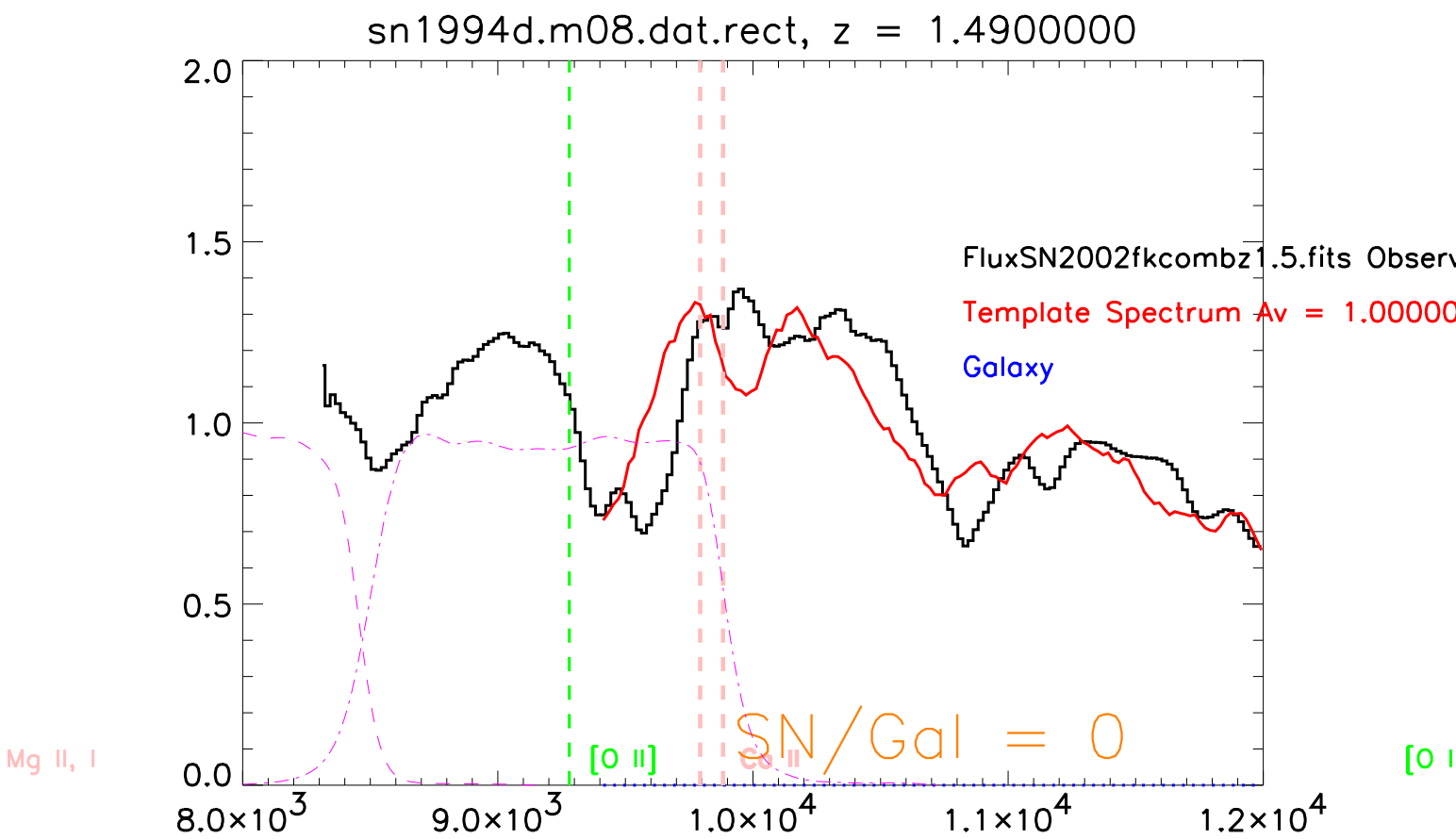

sn1998bu.m04.dat.rect, z = 1.5200000
FluxSN2002fkcombz1.5.fits Observed
Template Spectrum Av = 1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4


sn1994d.m07.dat.rect, z = 1.5200000
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4
FluxSN2002fkcombz1.5.fits Observ
Template Spectrum Av = 1.00000
Galaxy
SN/Gal = 0
[O II]
Mg II, I


sn1998bu.m03.dat.rect, z = 1.5200000
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4
FluxSN2002fkcombz1.5.fits Observed –
Template Spectrum Av = –1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II

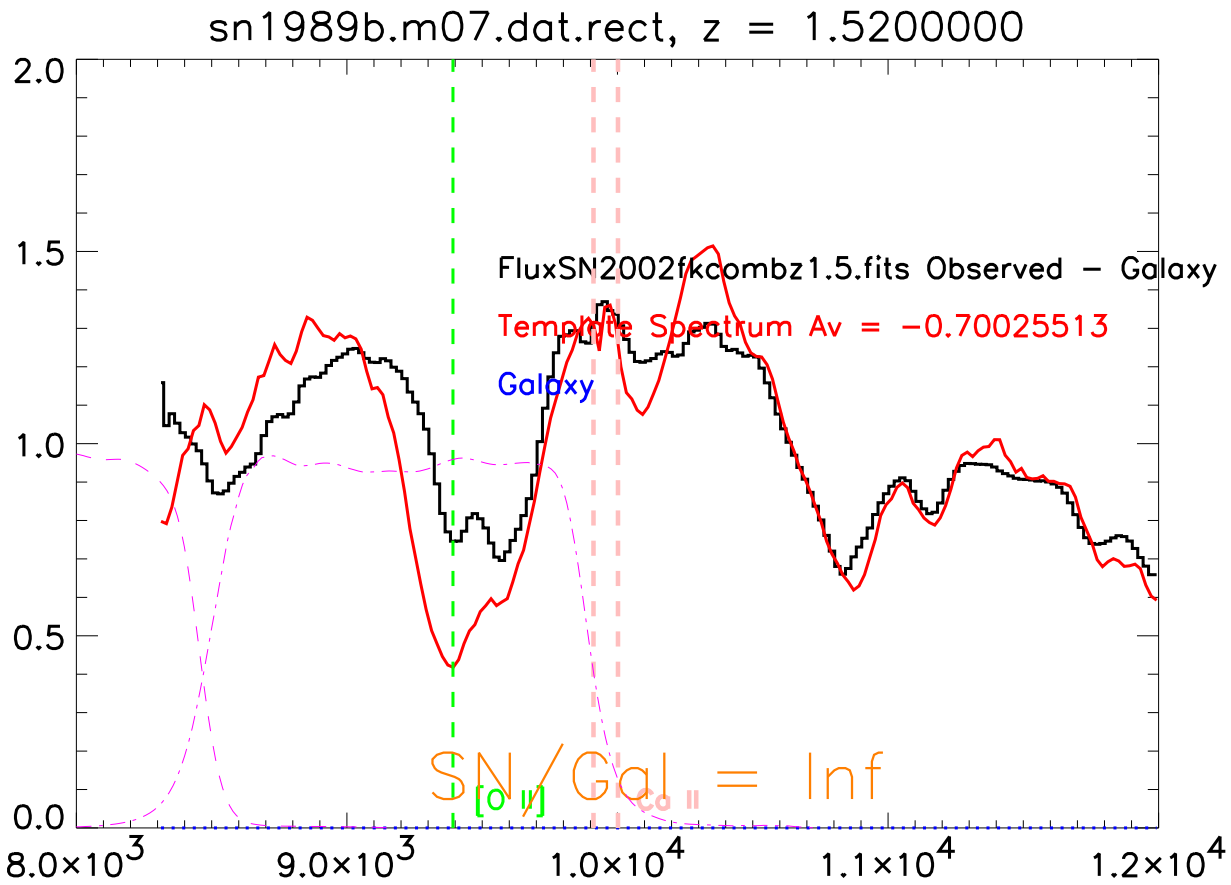

sn1998bu.m02.dat.rect, z = 1.5200000
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4
FluxSN2002fkcombz1.5.fits Observed –
Template Spectrum Av = –1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I

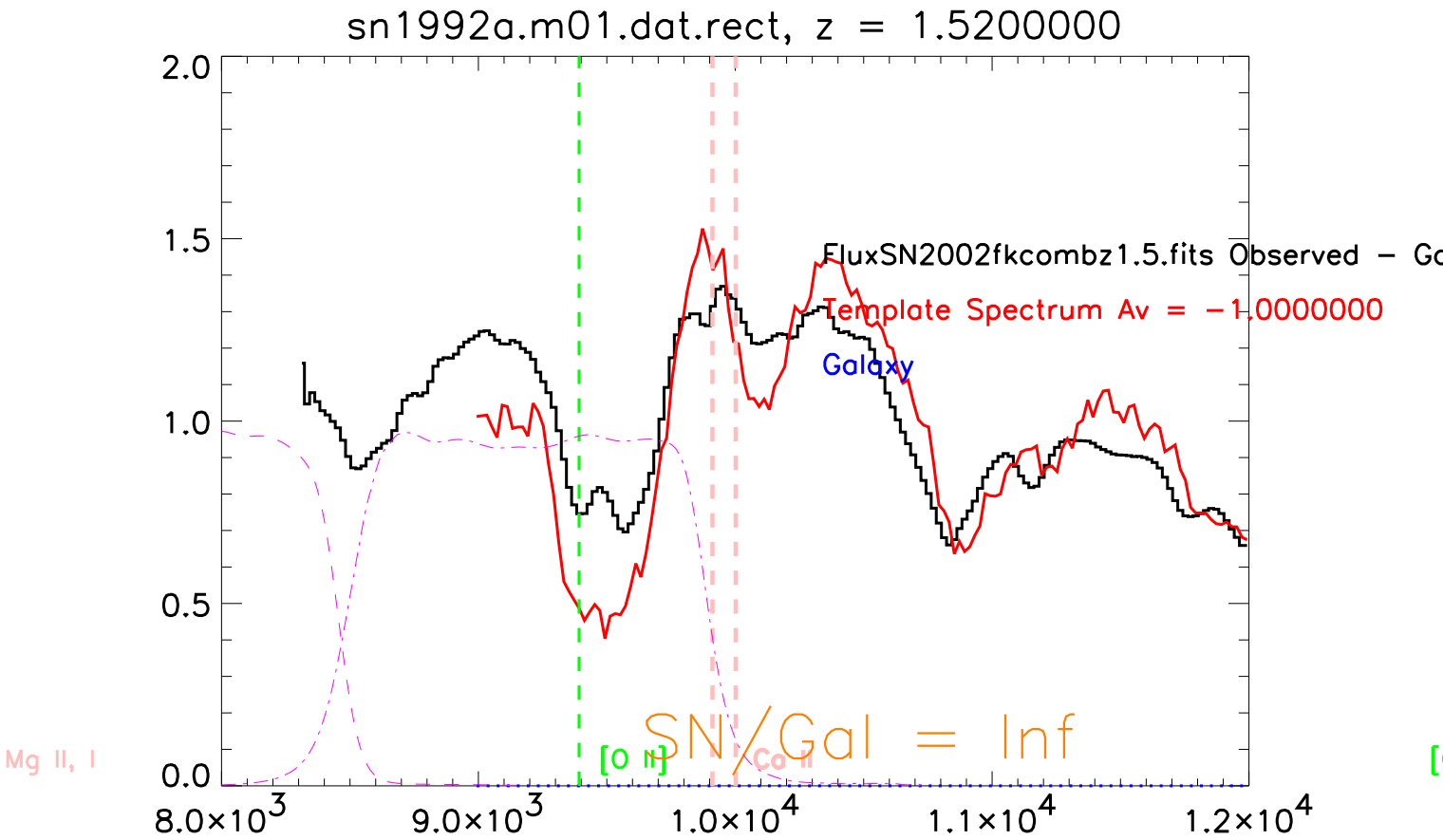

sn1994d.m03.dat.rect, z = 1.5300001
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = 0.090561181
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

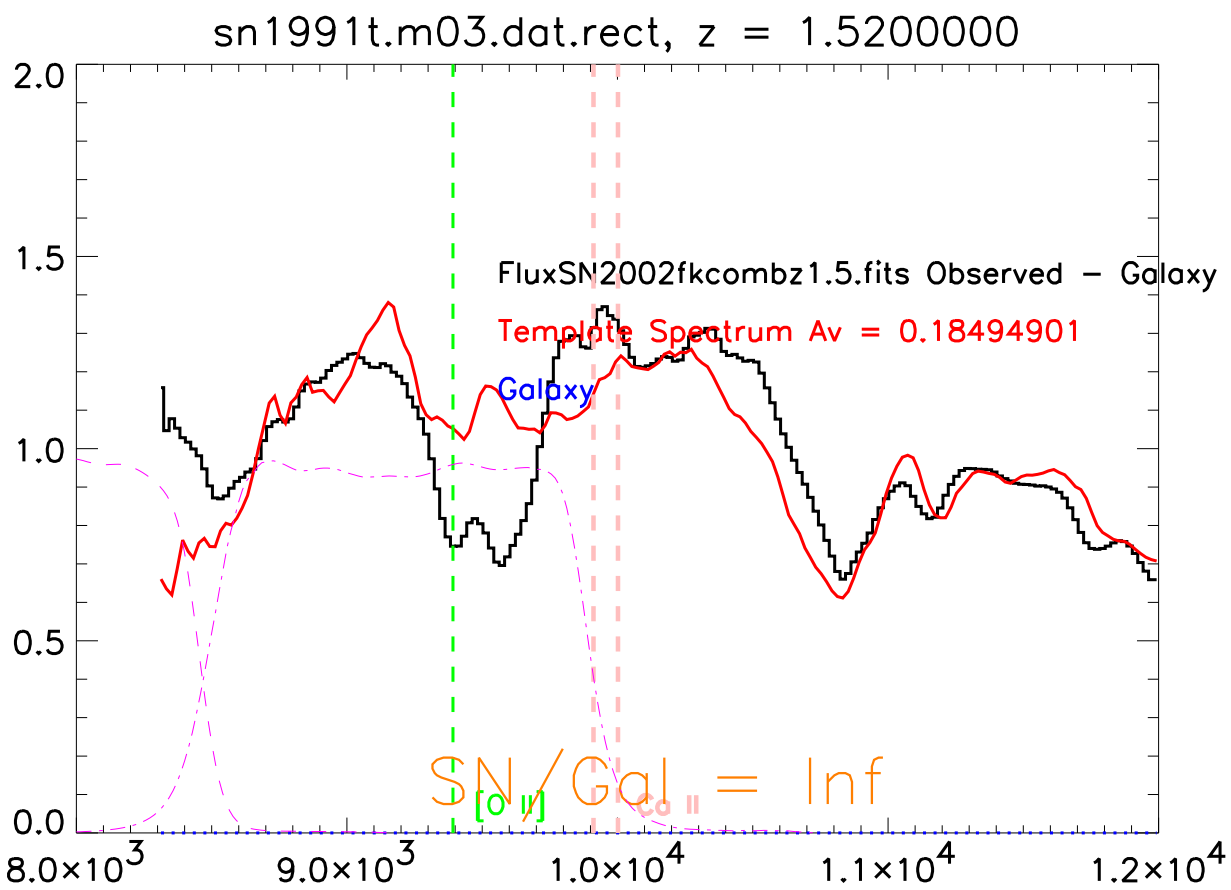

sn1994d.m08.dat.rect, z = 1.4900000
FluxSN2002fkcombz1.5.fits Observ
Template Spectrum Av = 1.00000
Galaxy
SN/Gal = 0
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

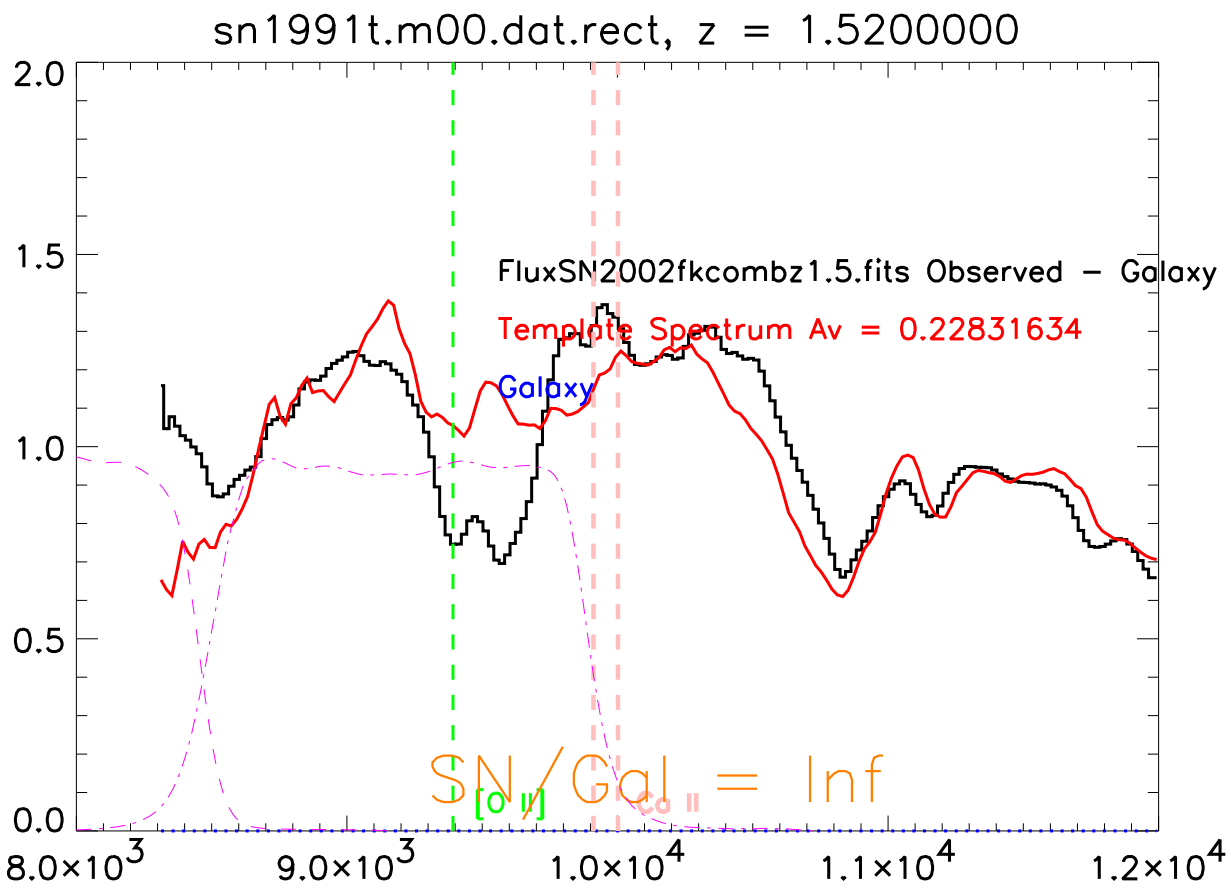
Mg II, I

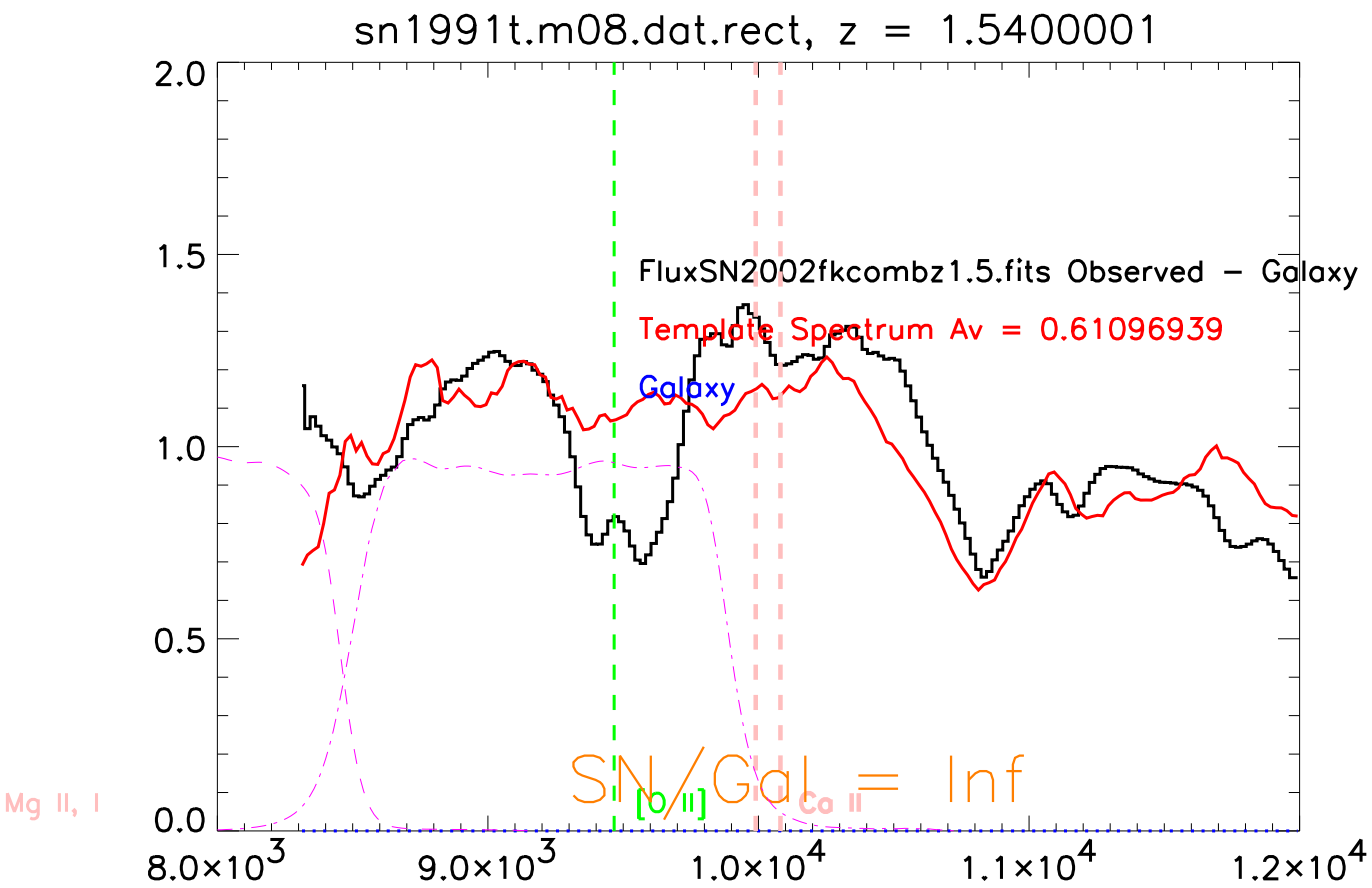
[O I

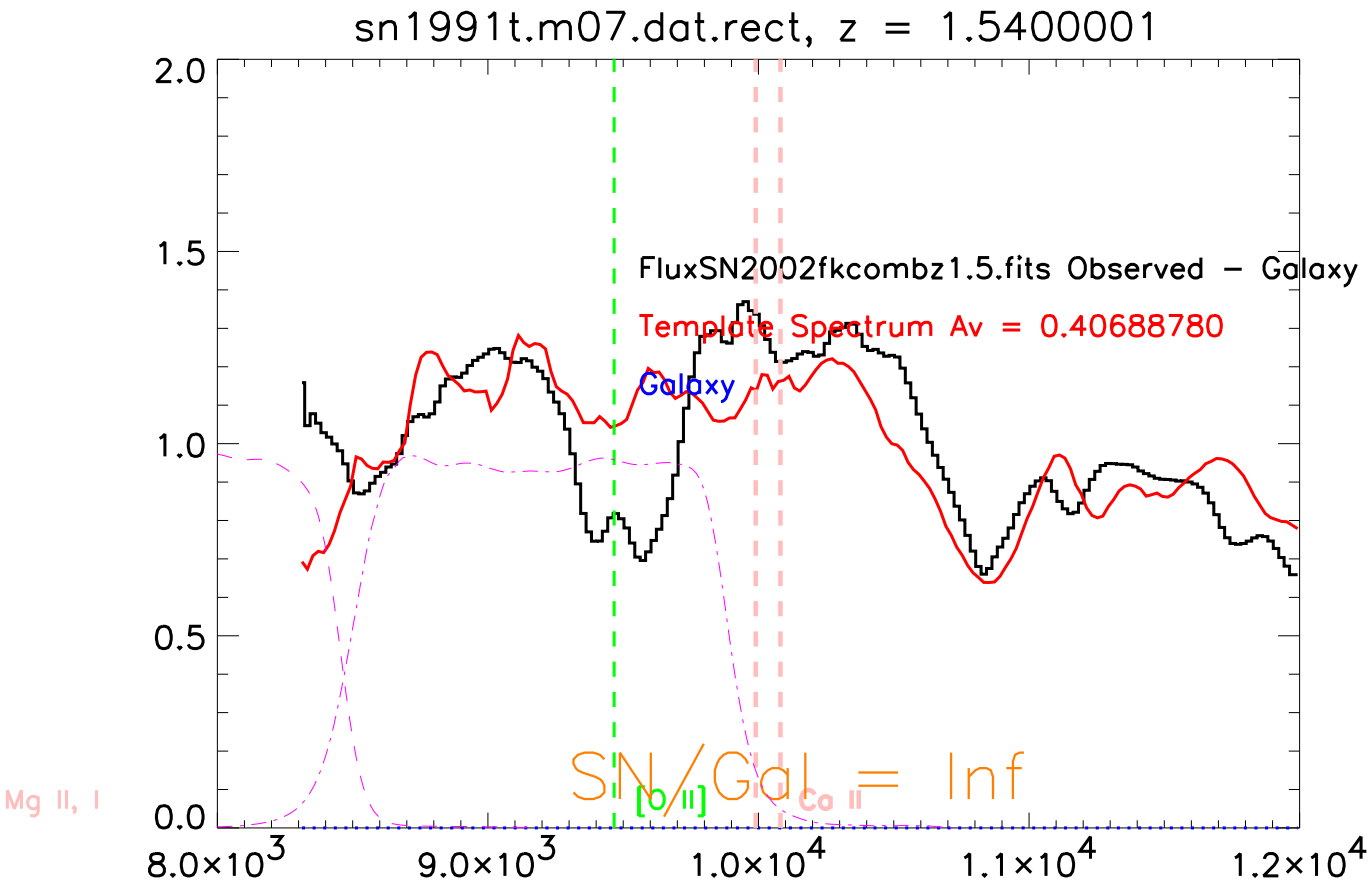

sn1989b.m07.dat.rect, z = 1.5200000
FluxSN2002fkcombz1.5.fits Observed − Galaxy
Template Spectrum Av = −0.70025513
Galaxy
SN/Gal = Inf
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

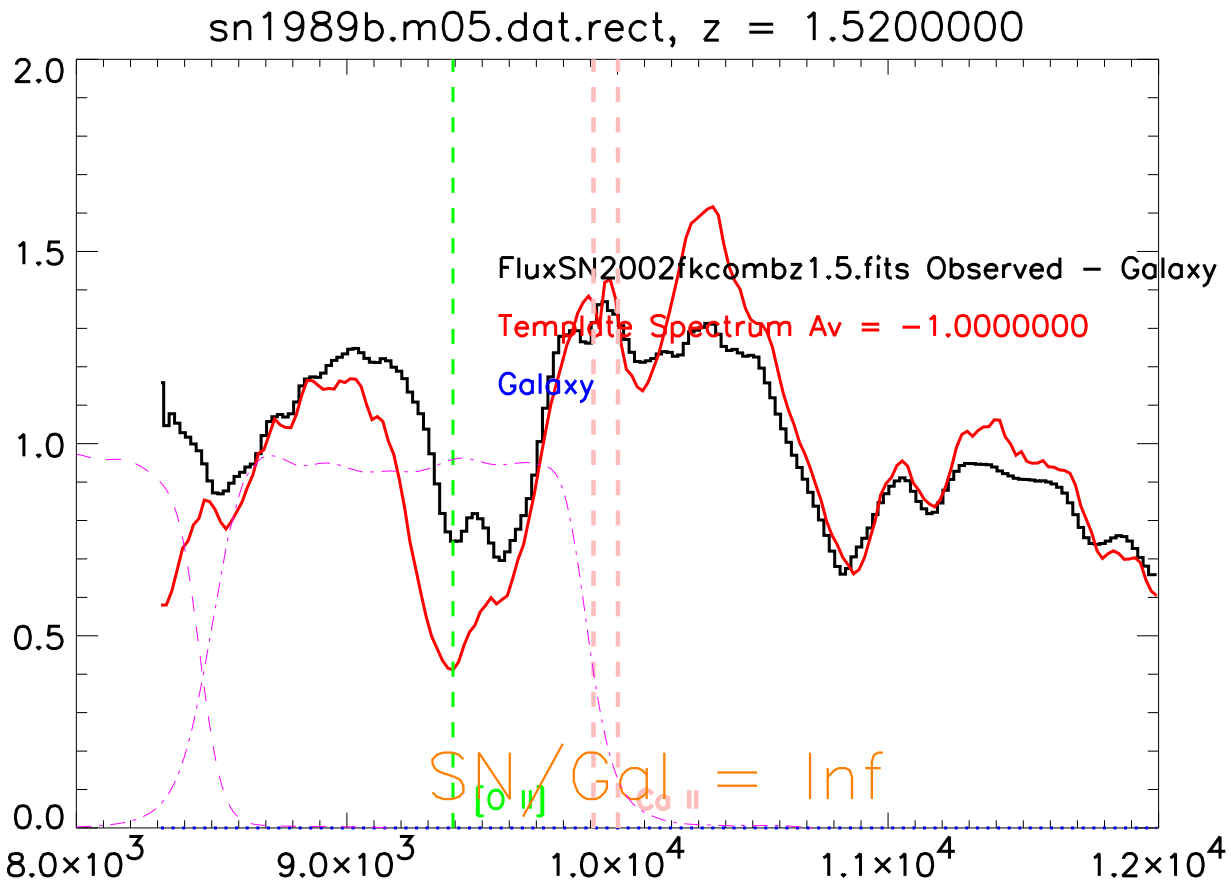

sn1992a.m01.dat.rect, z = 1.5200000
FluxSN2002fkcombz1.5.fits Observed – Ga
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

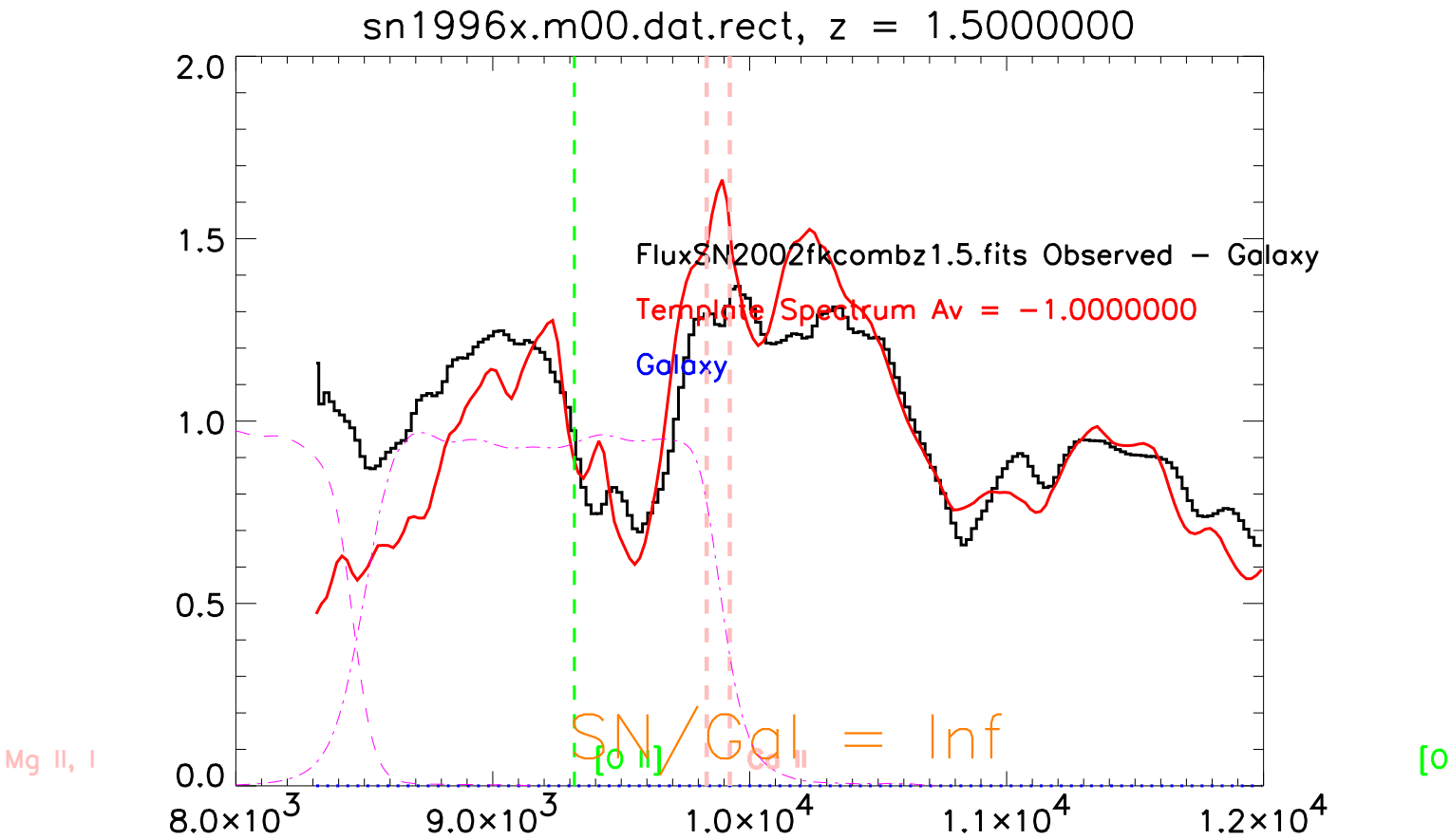

sn1991t.m03.dat.rect, z = 1.5200000
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = 0.18494901
Galaxy
SN/Gal = Inf
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

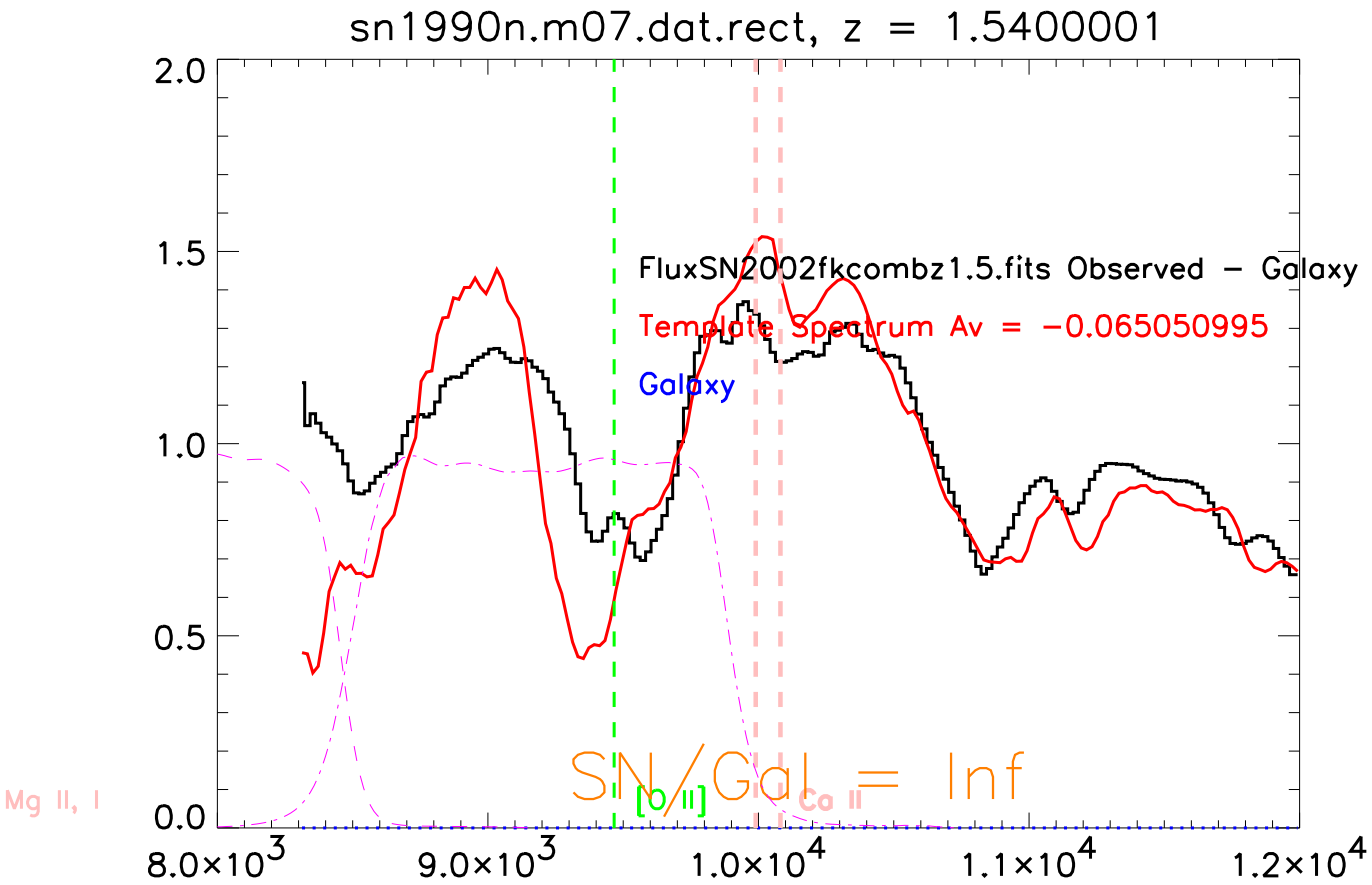

sn1991t.m00.dat.rect, z = 1.5200000
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = 0.22831634
Galaxy
SN/Gal = Inf
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

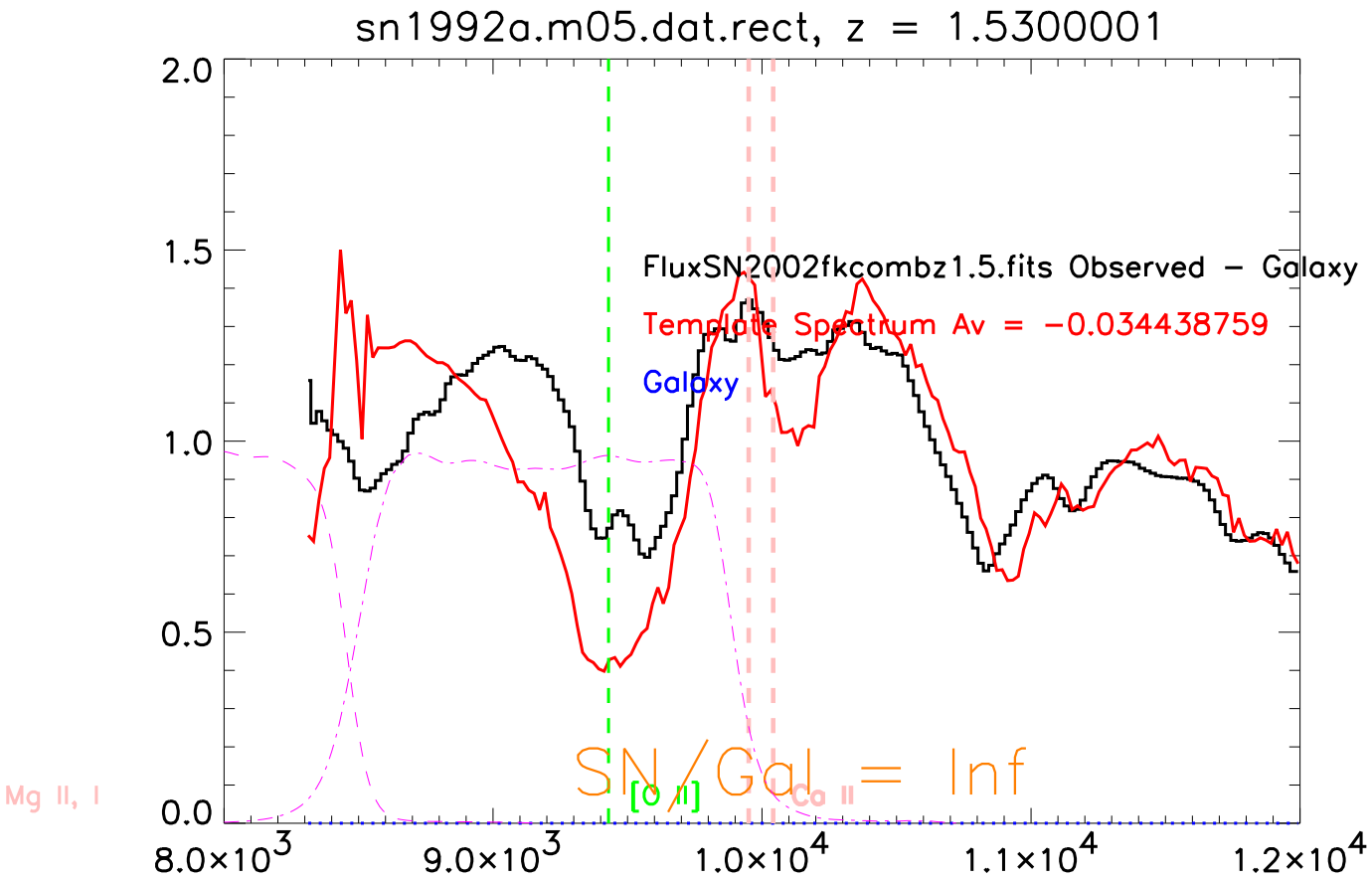

sn1991t.m08.dat.rect, z = 1.5400001
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = 0.61096939
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

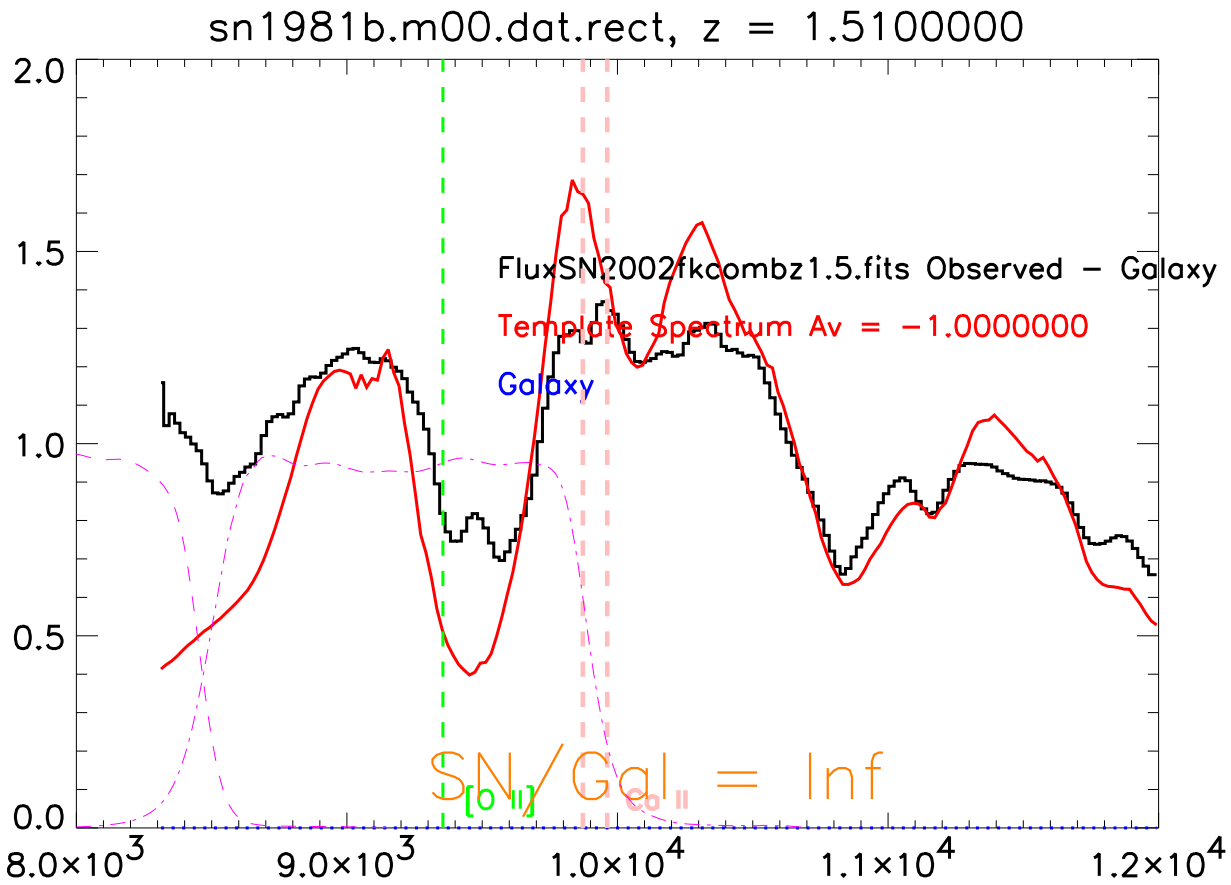

sn1991t.m07.dat.rect, z = 1.5400001
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = 0.40688780
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

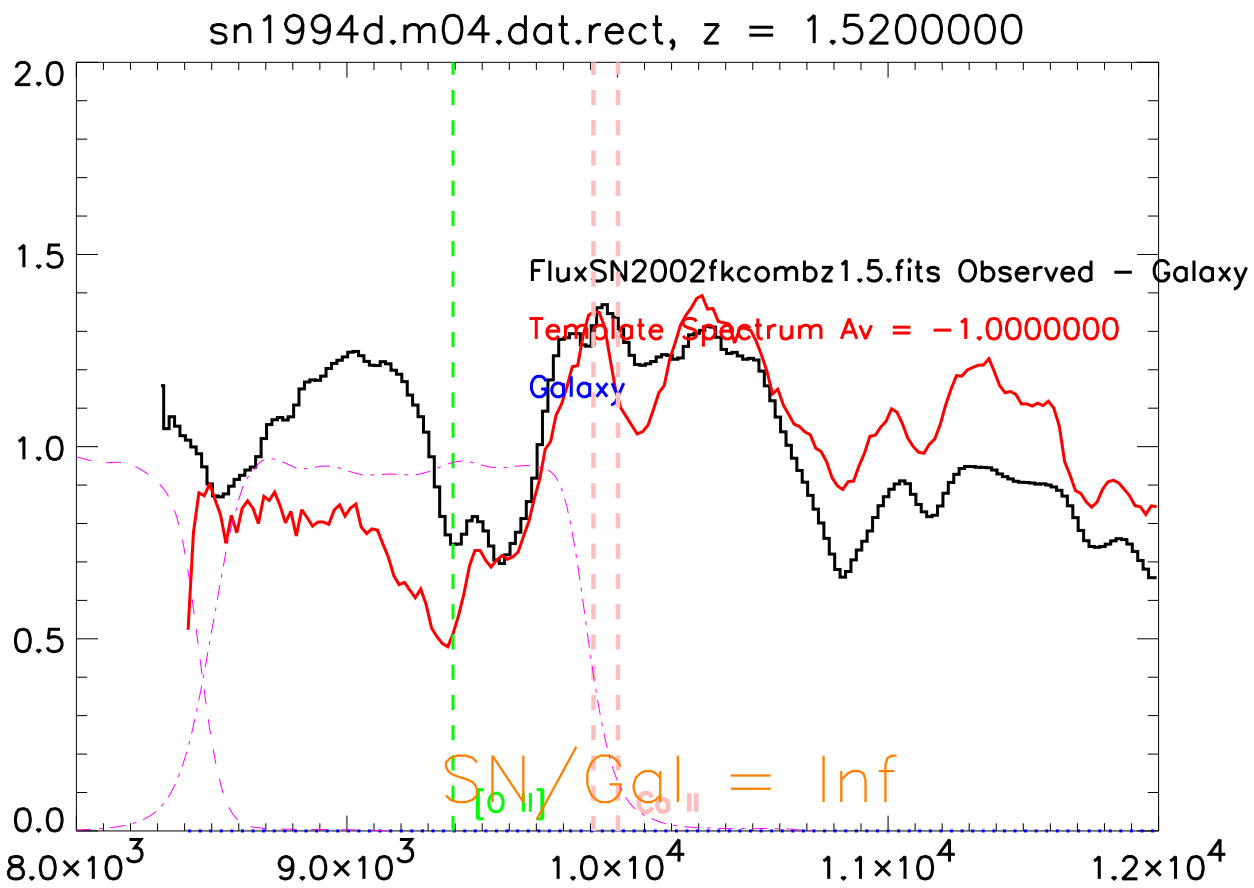

sn1989b.m05.dat.rect, z = 1.5200000
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

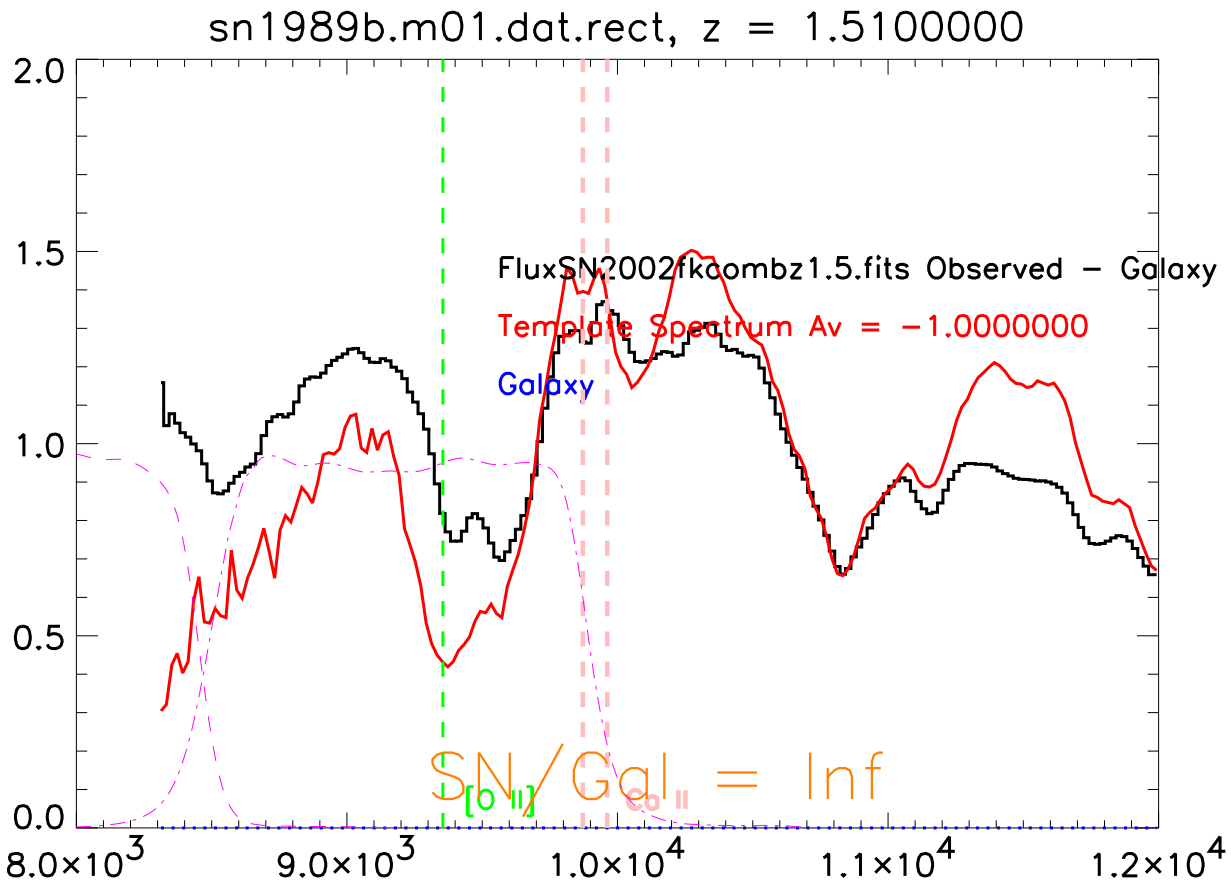

sn1996x.m00.dat.rect, z = 1.5000000
FluxSN2002fkcombz1.5.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
Mg II, I
[O II]
Ca II
[O
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4


sn1990n.m07.dat.rect, z = 1.5400001
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = −0.065050995
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4


sn1992a.m05.dat.rect, z = 1.5300001
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = −0.034438759
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

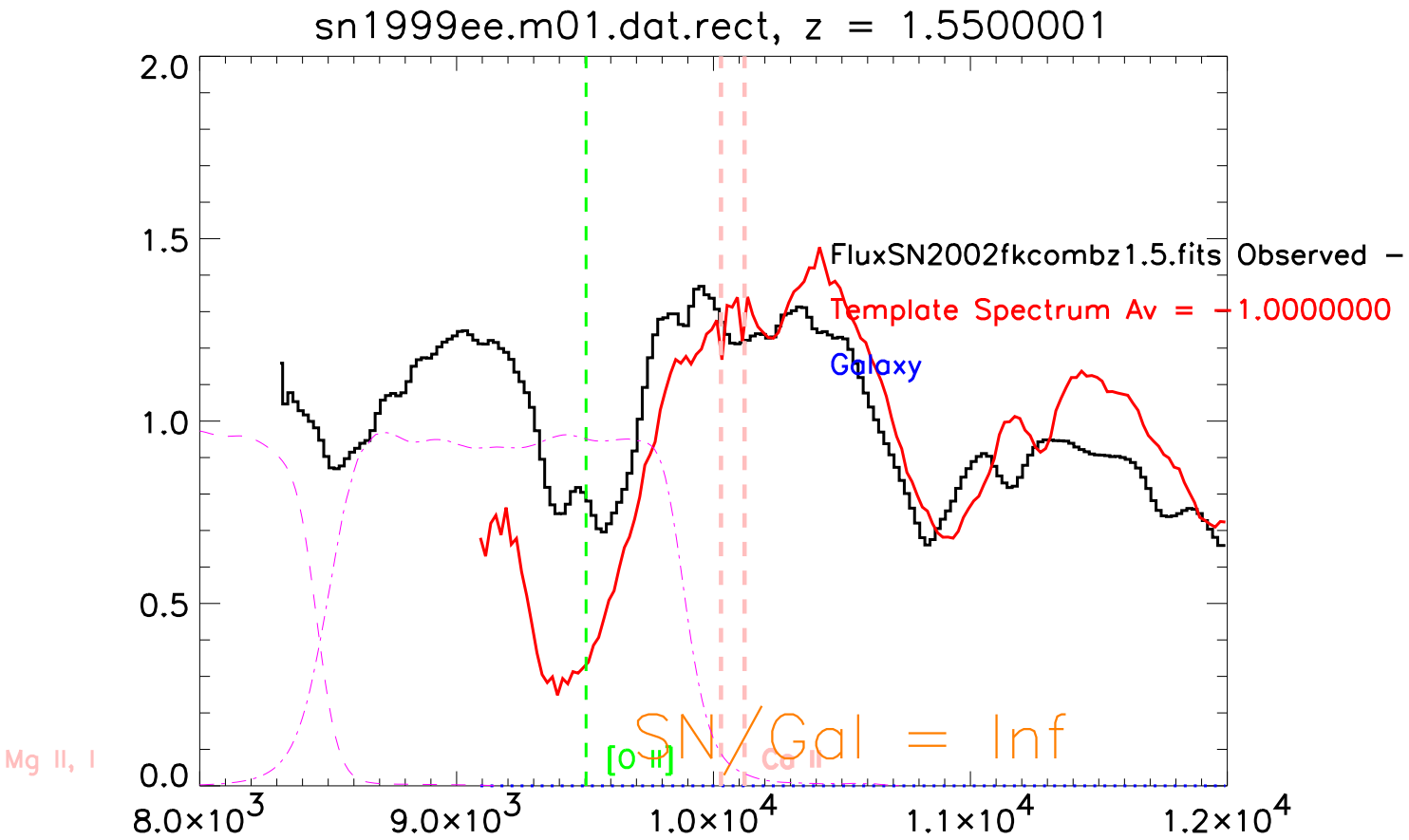

sn1981b.m00.dat.rect, z = 1.5100000
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

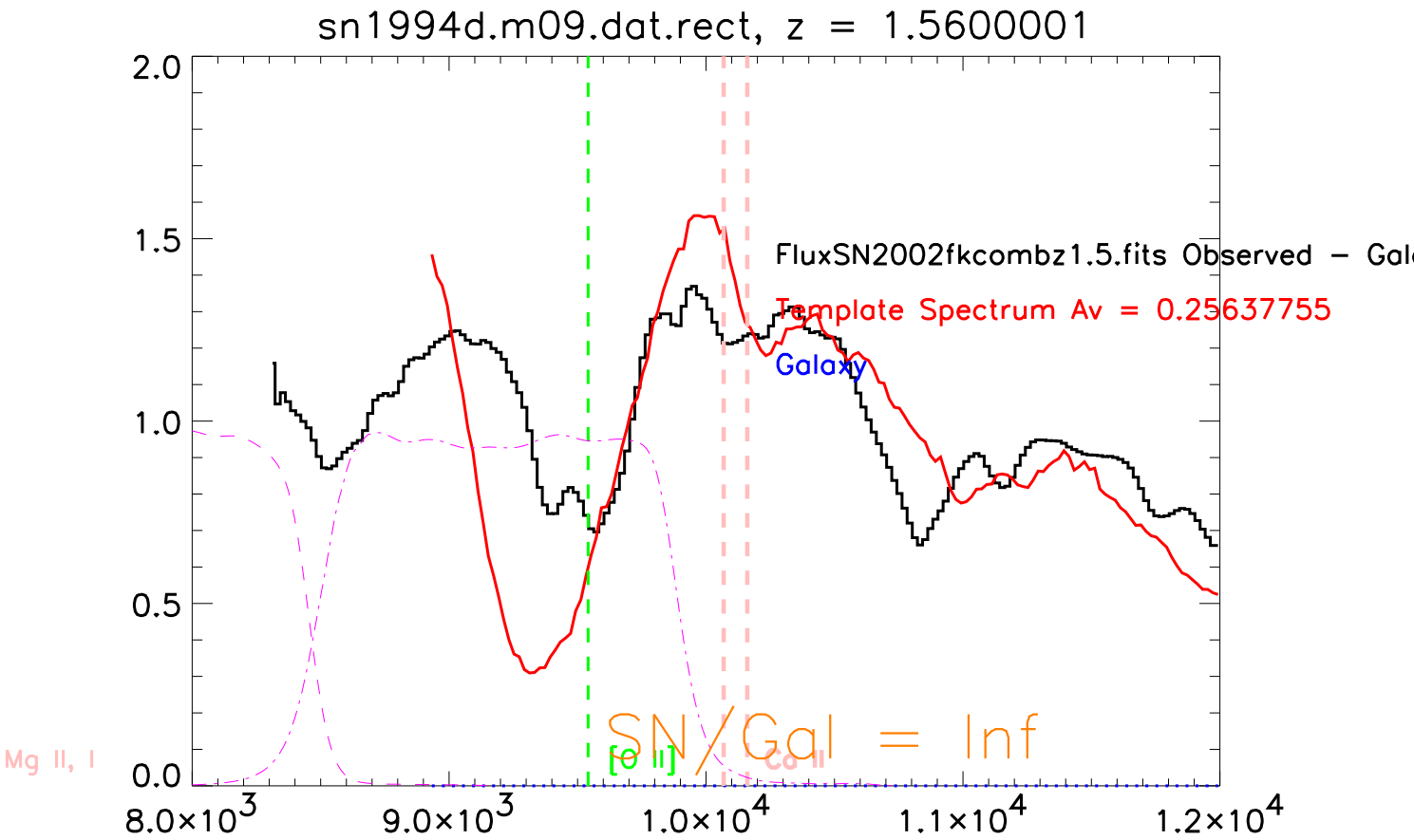

sn1994d.m04.dat.rect, z = 1.5200000
FluxSN2002fkcombz1.5.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
[O II]
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

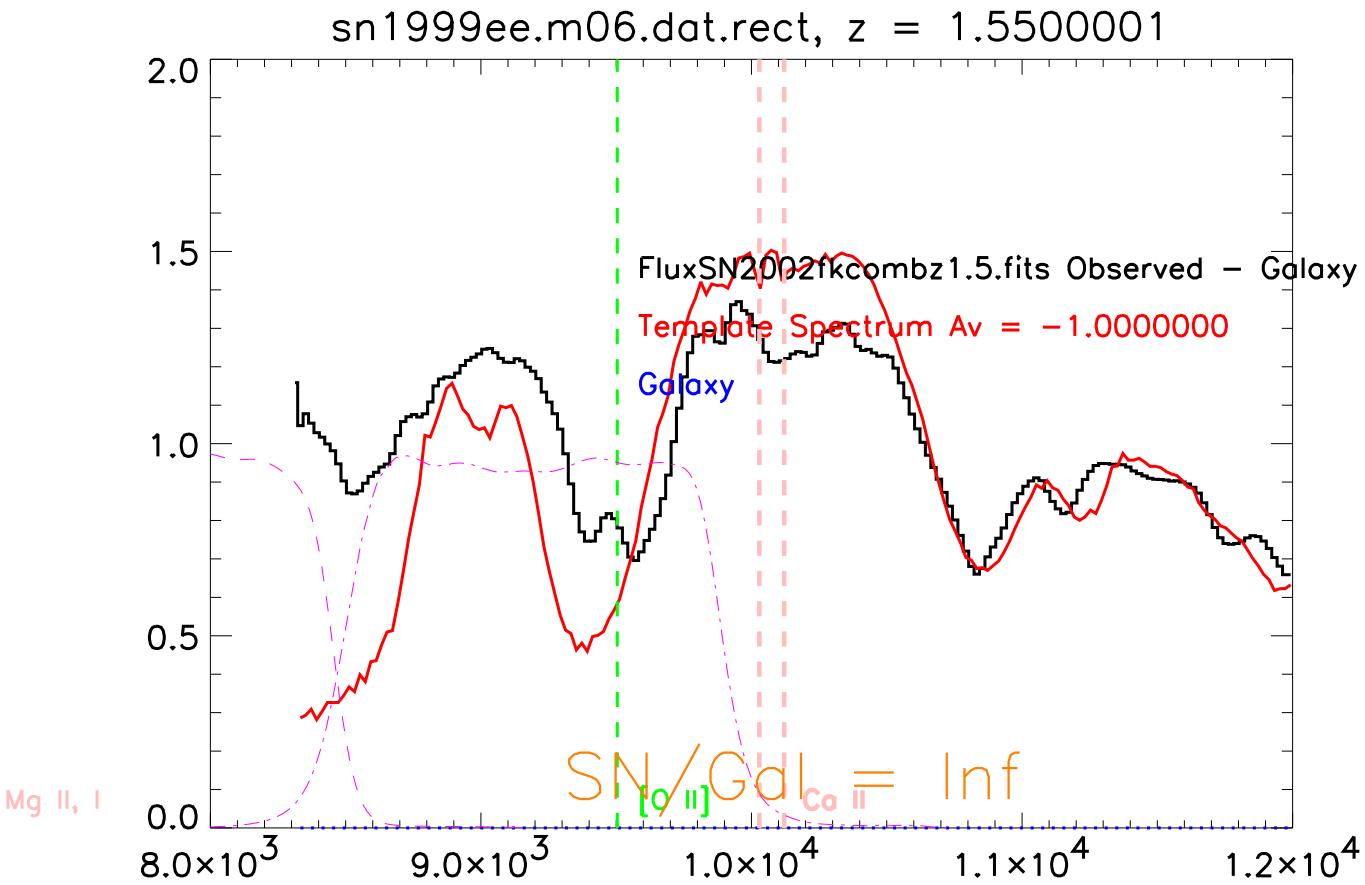

sn1989b.m01.dat.rect, z = 1.5100000
FluxSN2002fkcombz1.5.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4

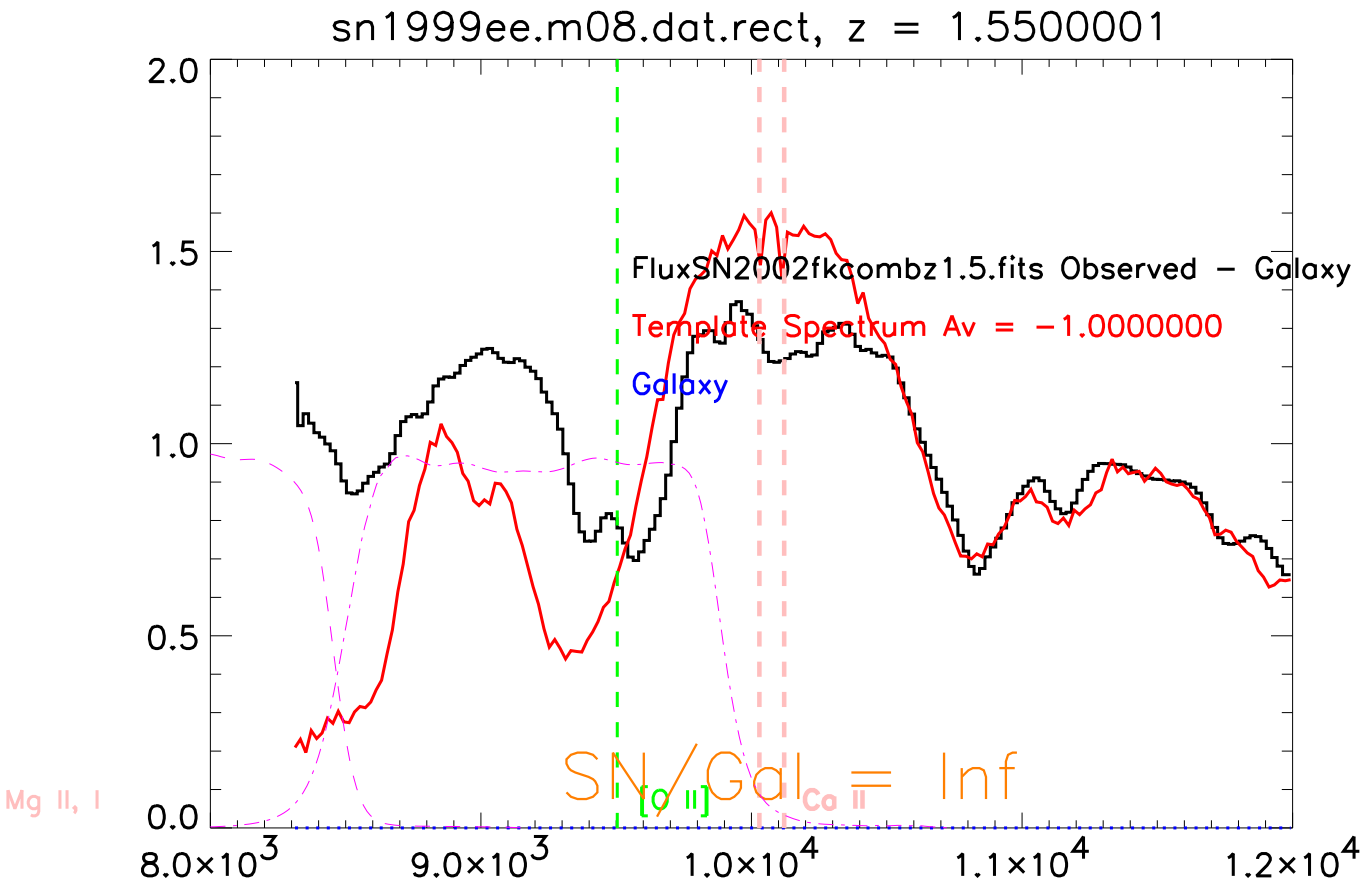
Mg II, I

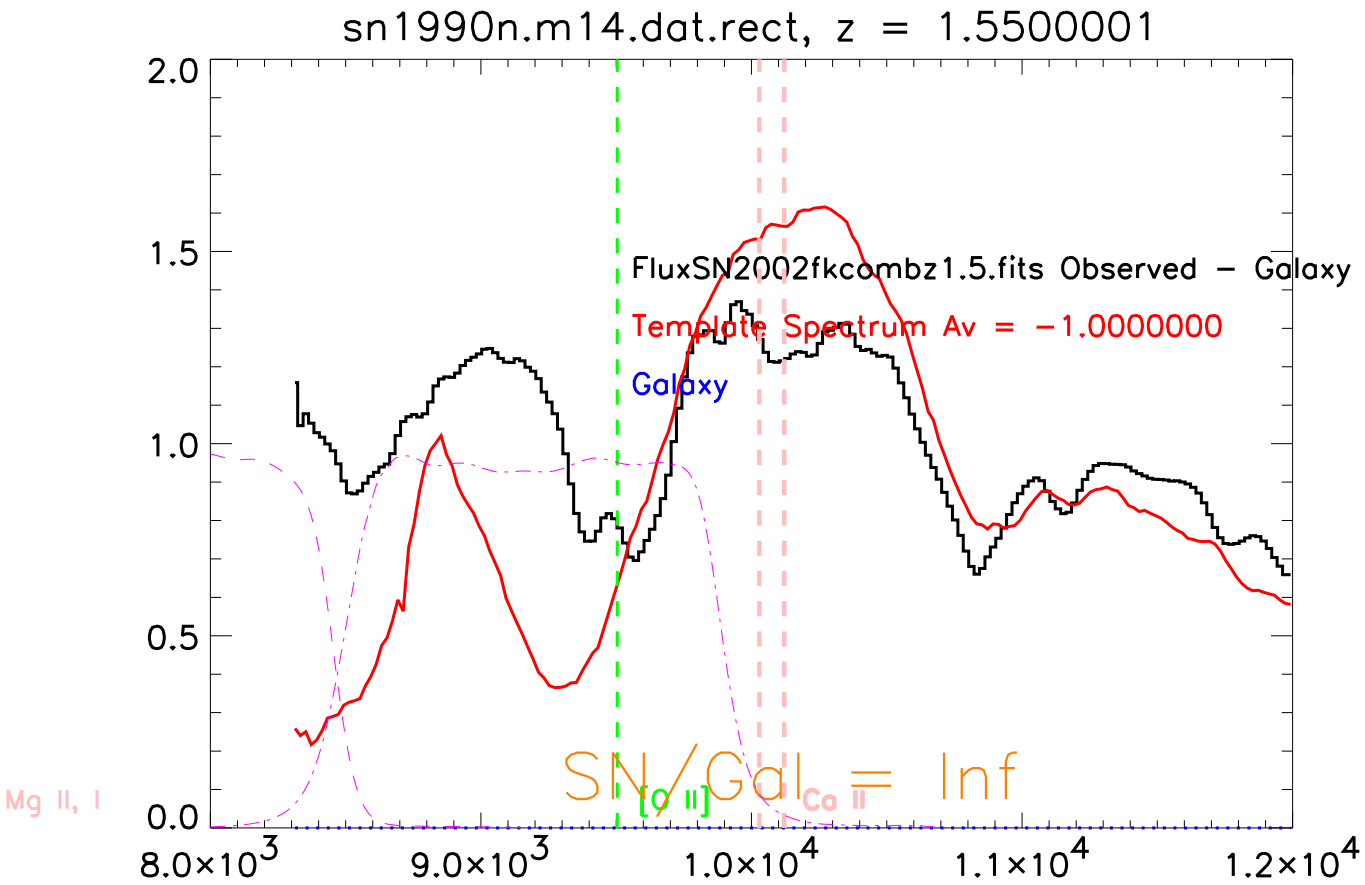
[O


sn1999ee.m01.dat.rect, z = 1.5500001
FluxSN2002fkcombz1.5.fits Observed –
Template Spectrum Av = –1.0000000
Galaxy
SN/Gal = Inf
[O II]
Mg II, I
Ca II
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4


sn1994d.m09.dat.rect, z = 1.5600001
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4
FluxSN2002fkcombz1.5.fits Observed – Gal
Template Spectrum Av = 0.25637755
Galaxy
SN/Gal = Inf
[O II]
Mg II, I
Ca II


sn1999ee.m06.dat.rect, z = 1.5500001
FluxSN2002fkcombz1.5.fits Observed − Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4


sn1999ee.m08.dat.rect, z = 1.5500001
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4


sn1990n.m14.dat.rect, z = 1.5500001
FluxSN2002fkcombz1.5.fits Observed – Galaxy
Template Spectrum Av = −1.0000000
Galaxy
SN/Gal = Inf
[O II]
Ca II
Mg II, I
2.0
1.5
1.0
0.5
0.0
8.0×10^3
9.0×10^3
1.0×10^4
1.1×10^4
1.2×10^4