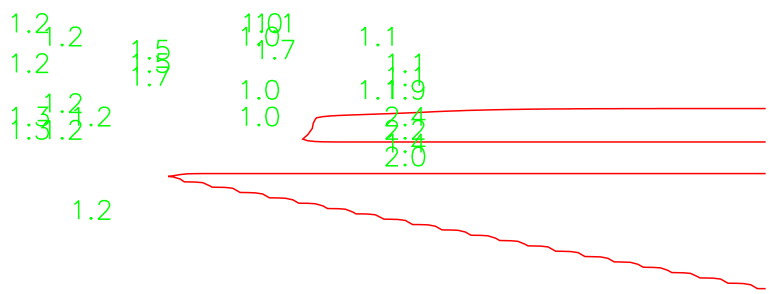
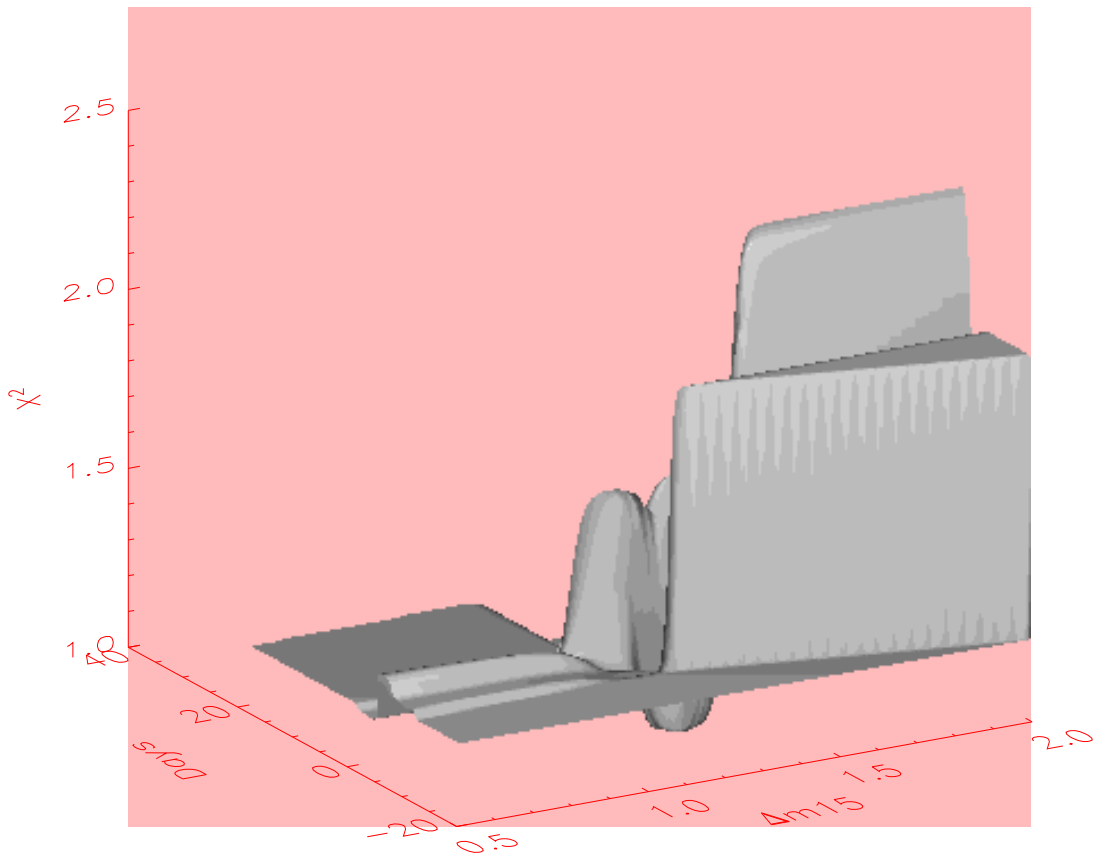
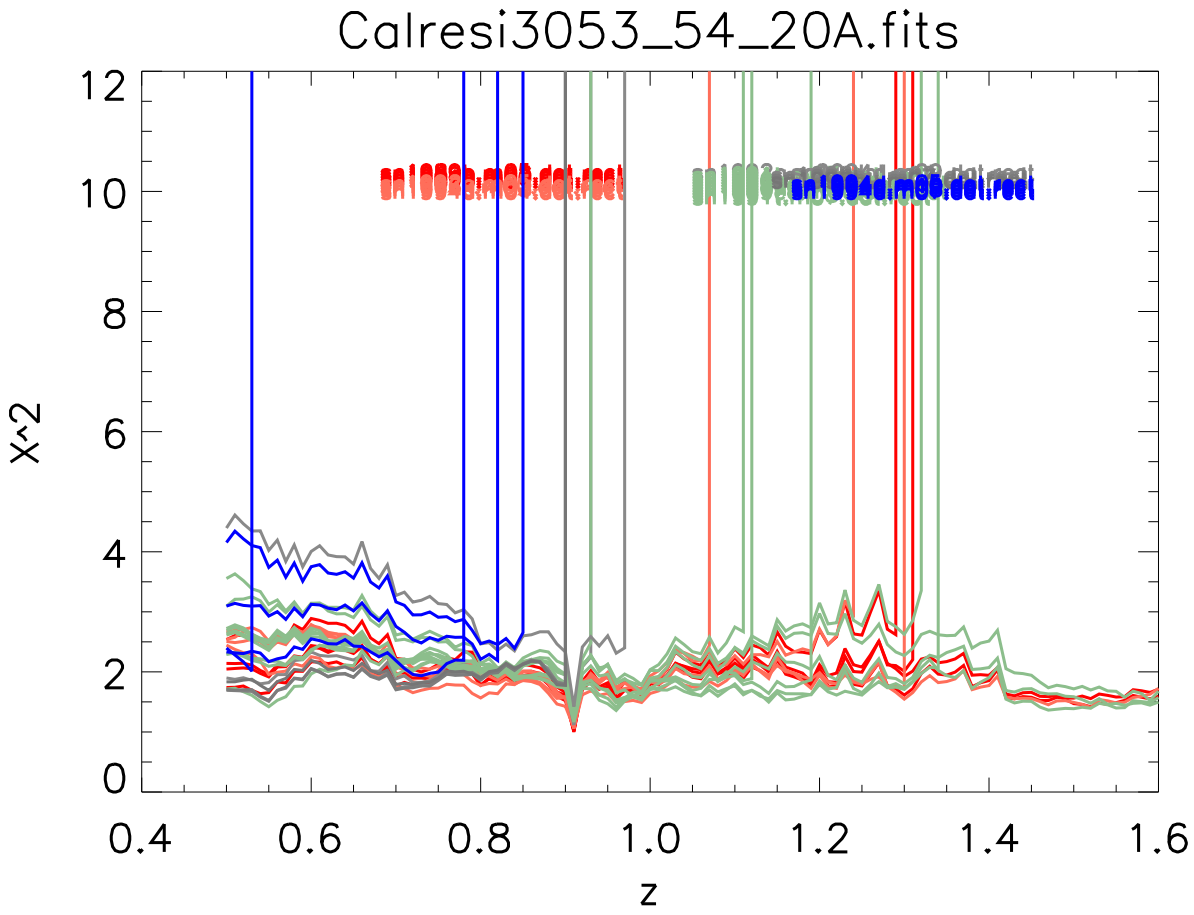
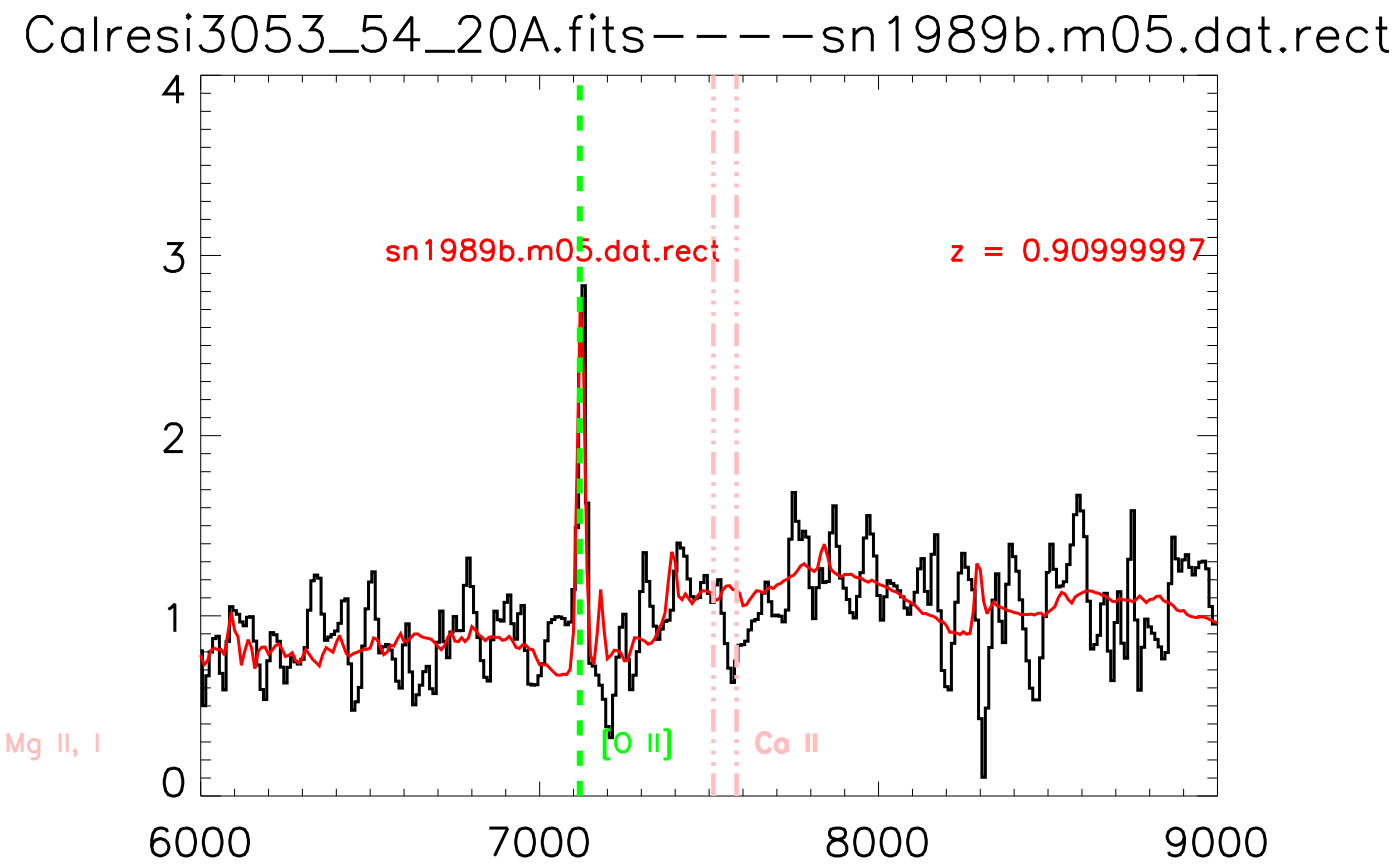
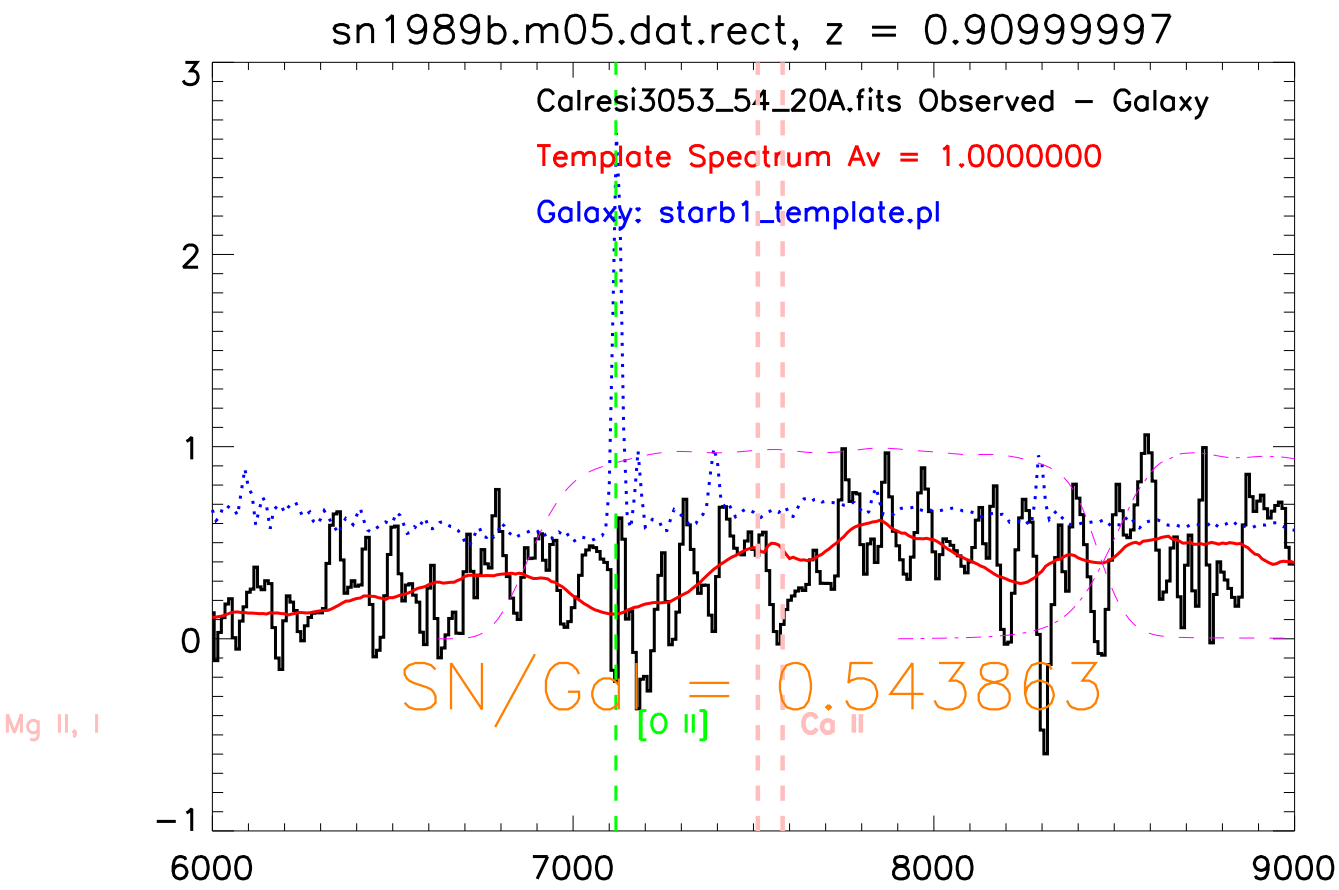
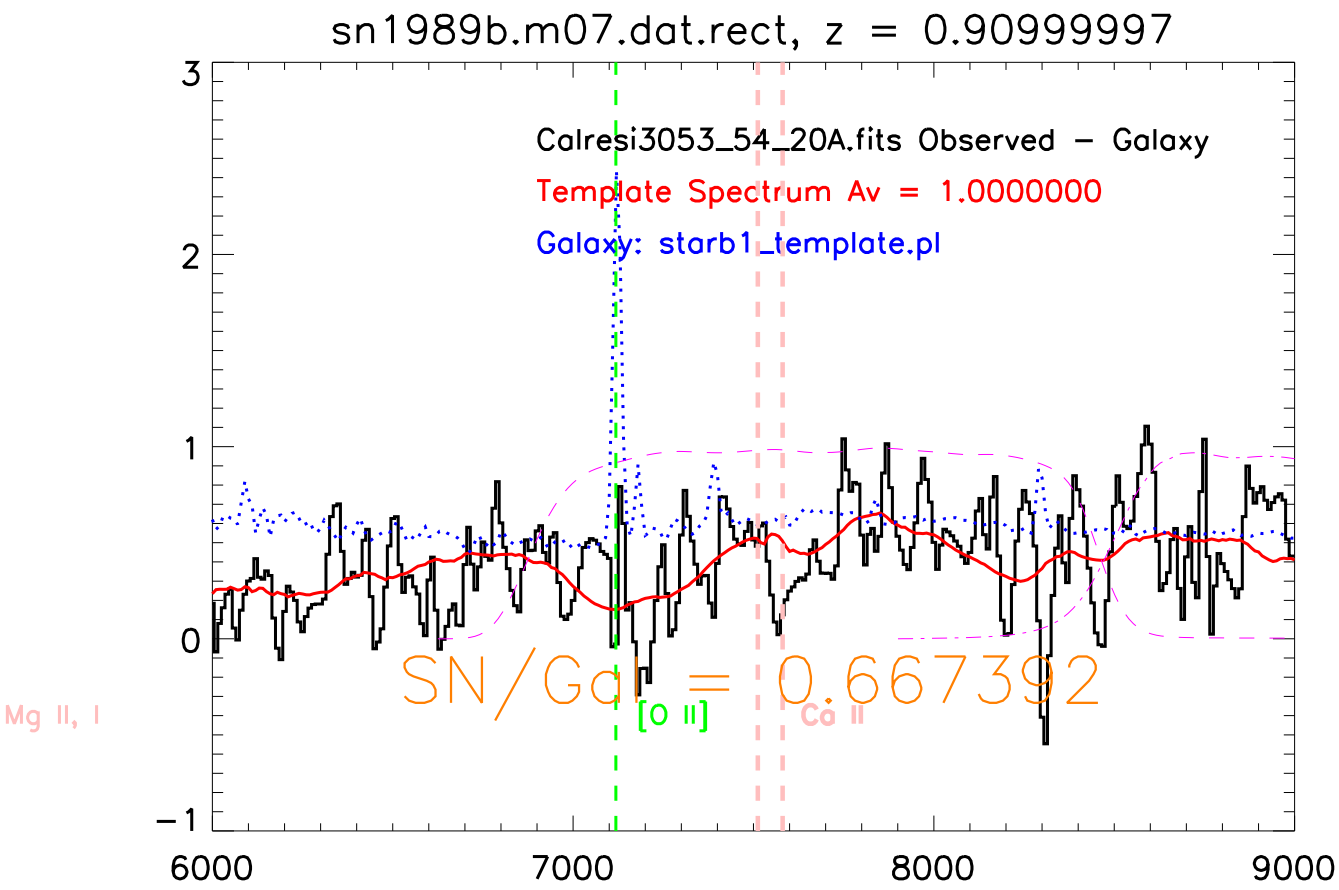

1.2
1.2
1.2

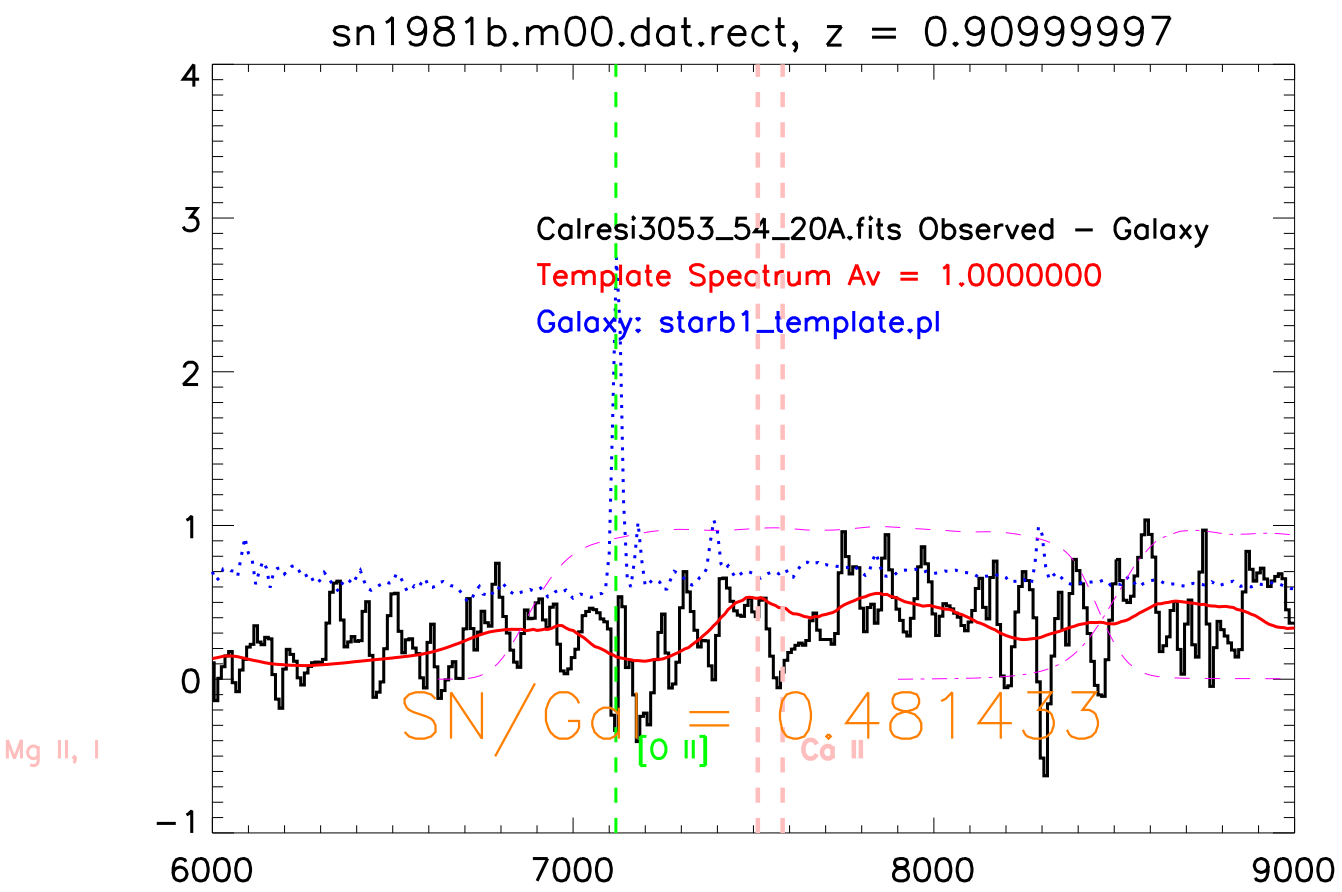

2.5
2.0
1.5
1.0
χ^2
40
20
0
−20
dδ/s
0.5
1.0
1.5
2.0
Δm15

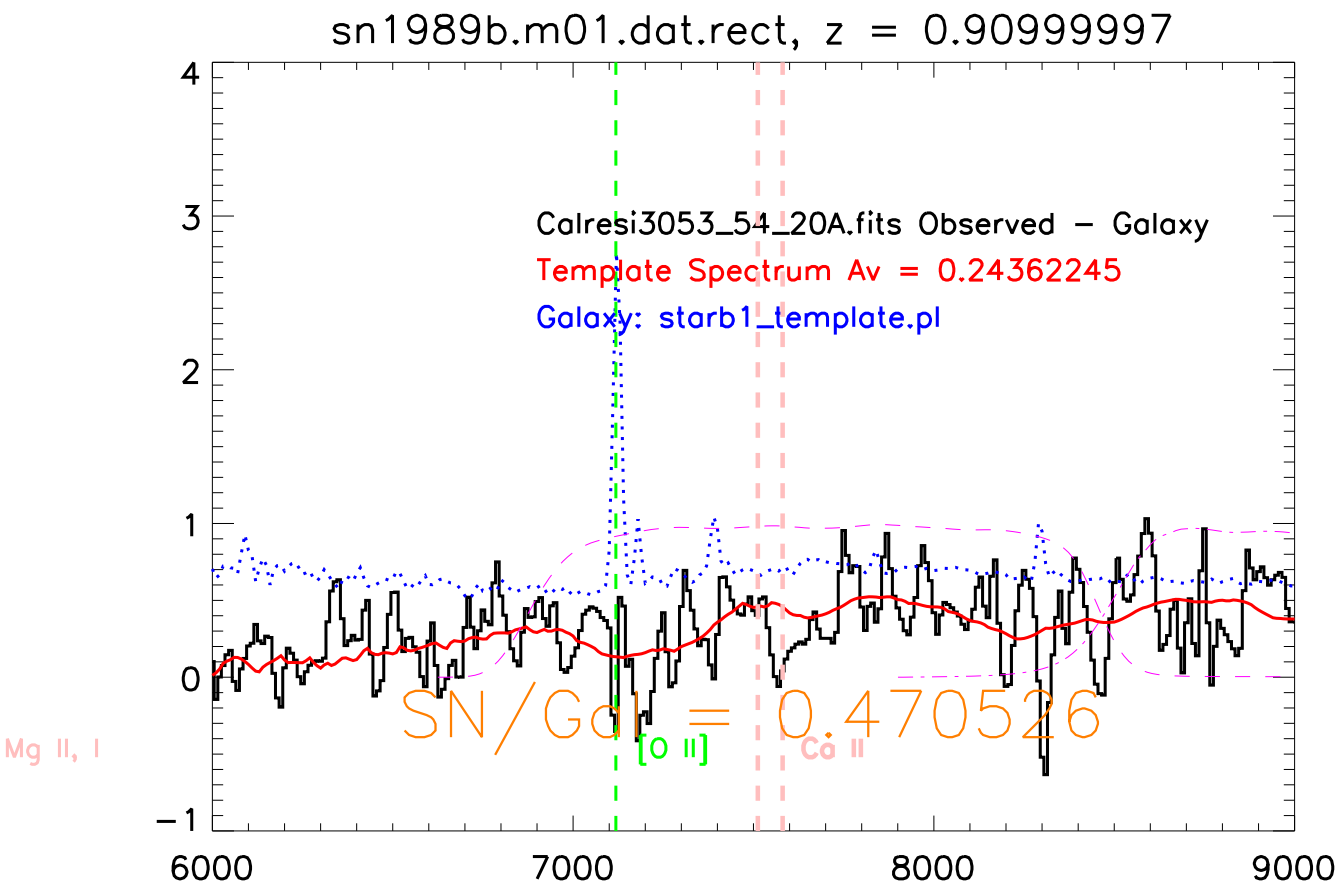

Calresi3053_54_20A.fits
12
10
8
6
4
2
0
X^2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
z

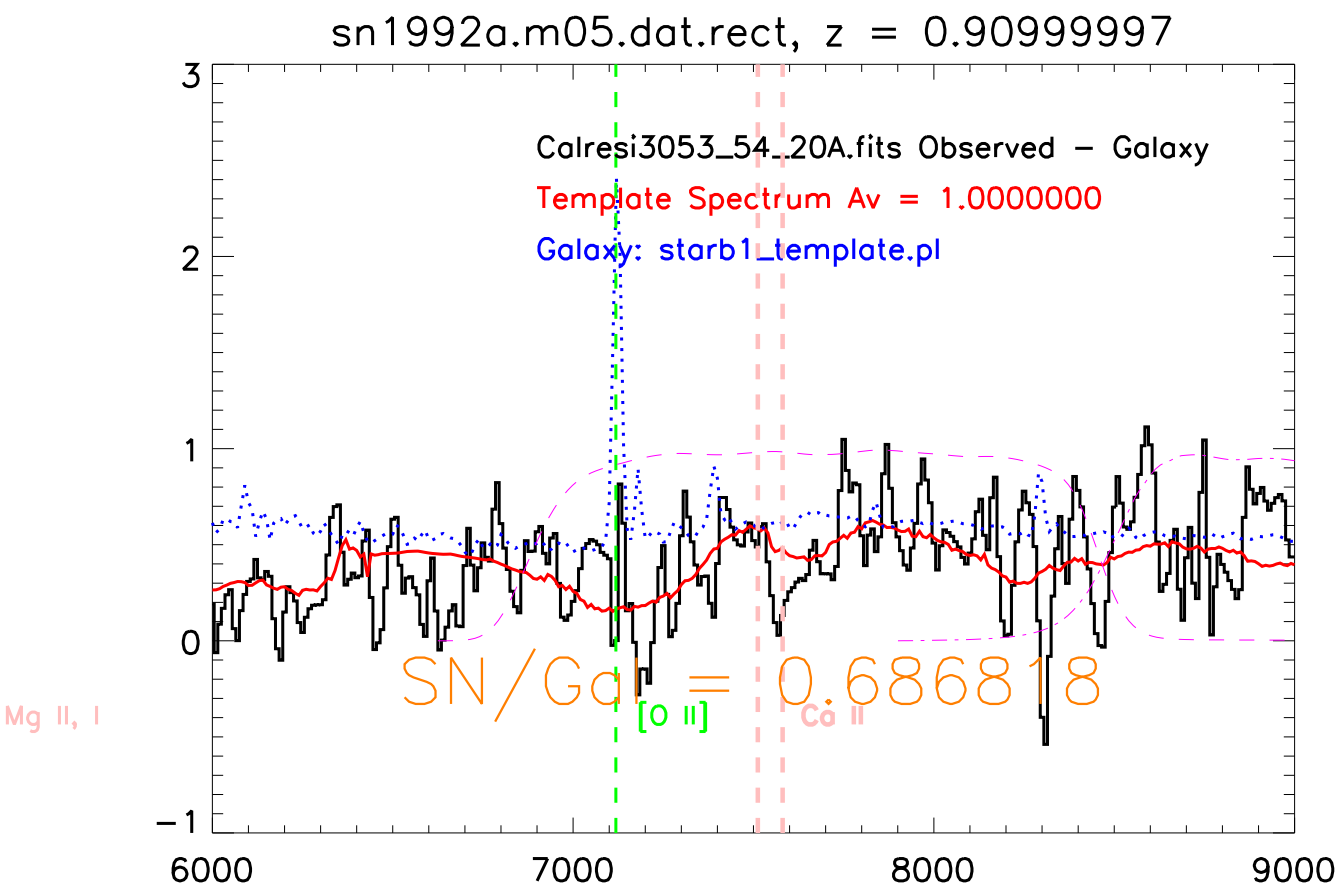

Calresi3053_54_20A.fits----sn1989b.m05.dat.rect
sn1989b.m05.dat.rect
z = 0.90999997
Mg II, I
[O II]
Ca II
0
1
2
3
4
6000
7000
8000
9000

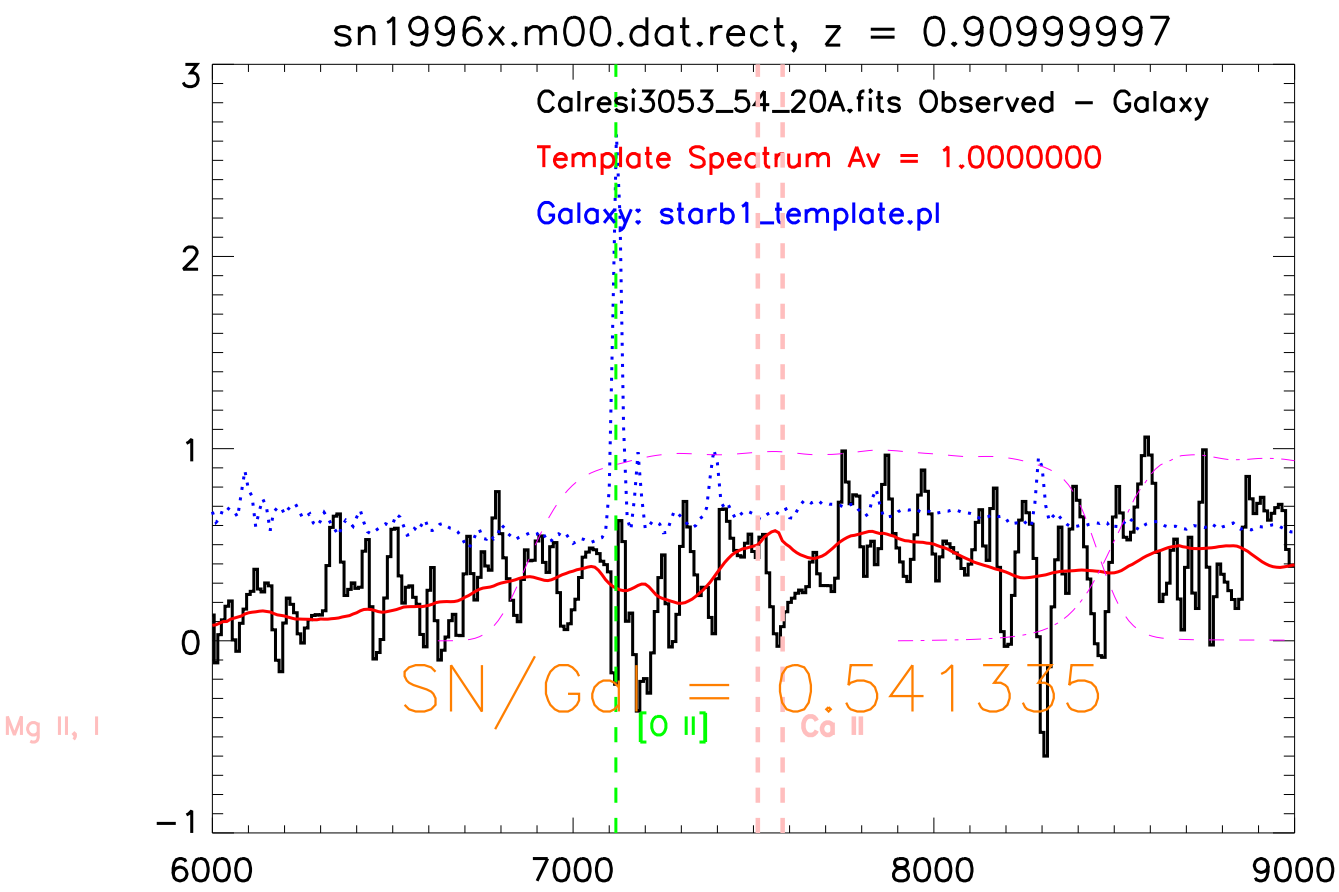

sn1989b.m05.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.543863
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

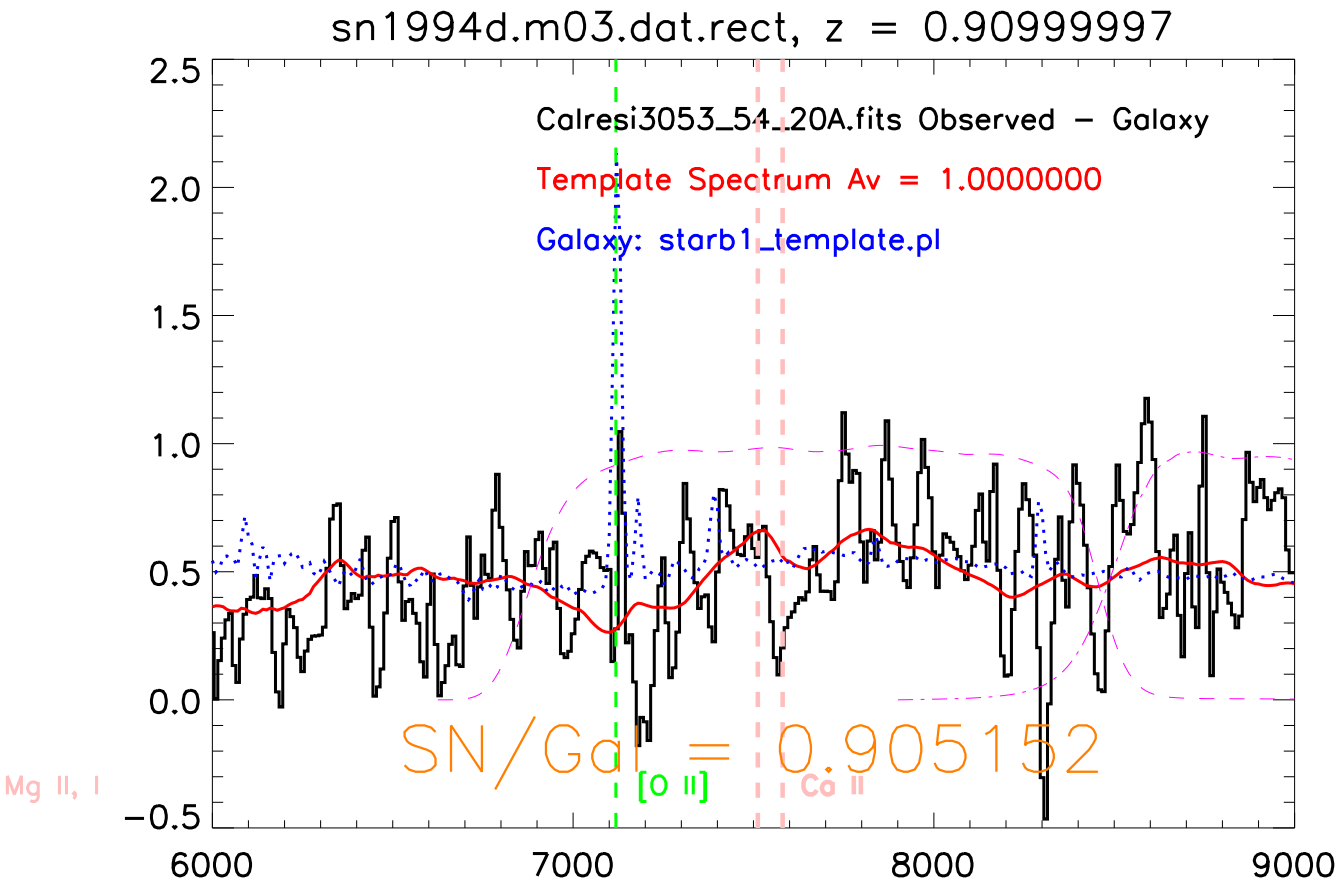

sn1989b.m07.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.667392
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

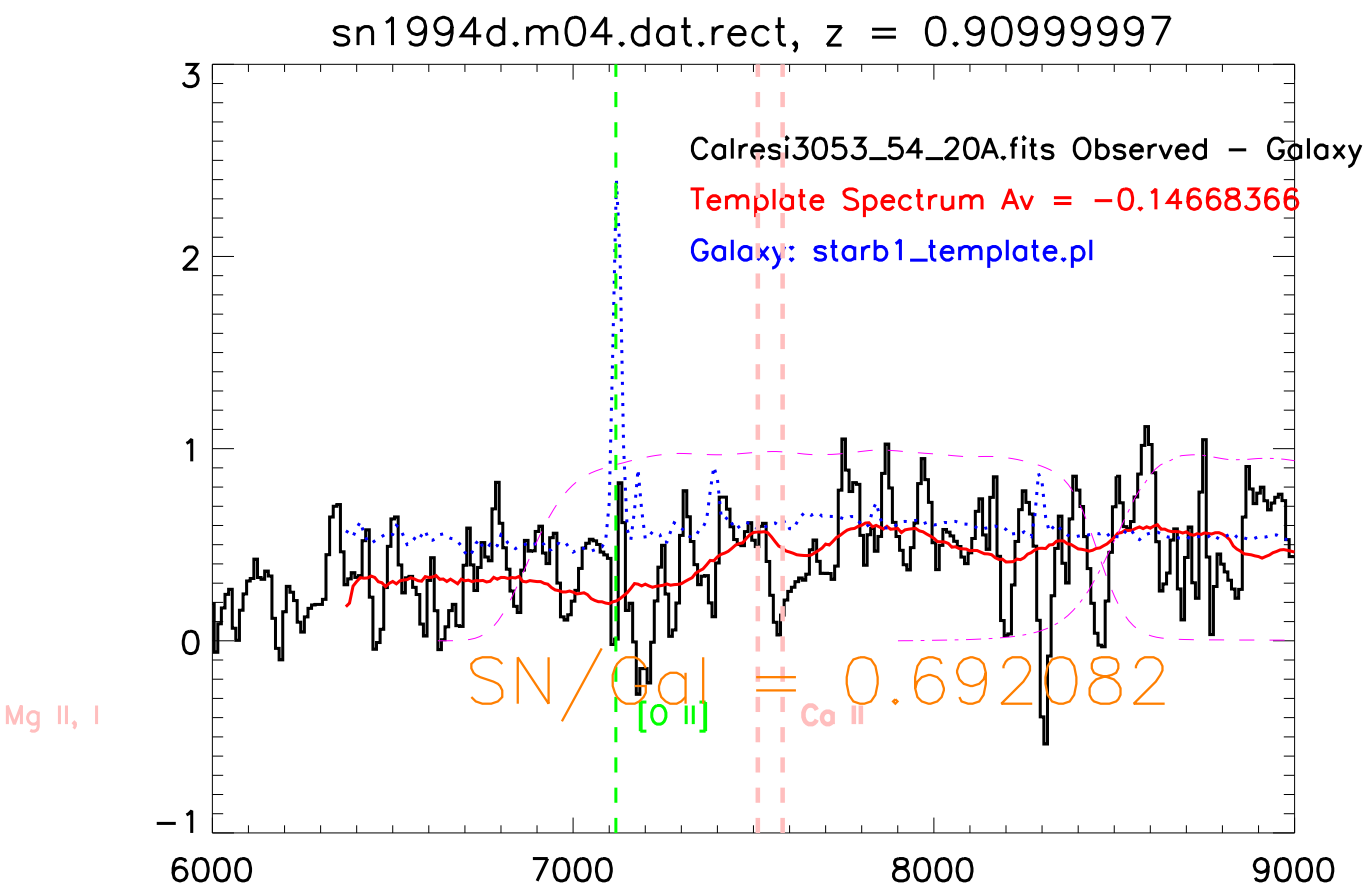

sn1981b.m00.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.481433
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

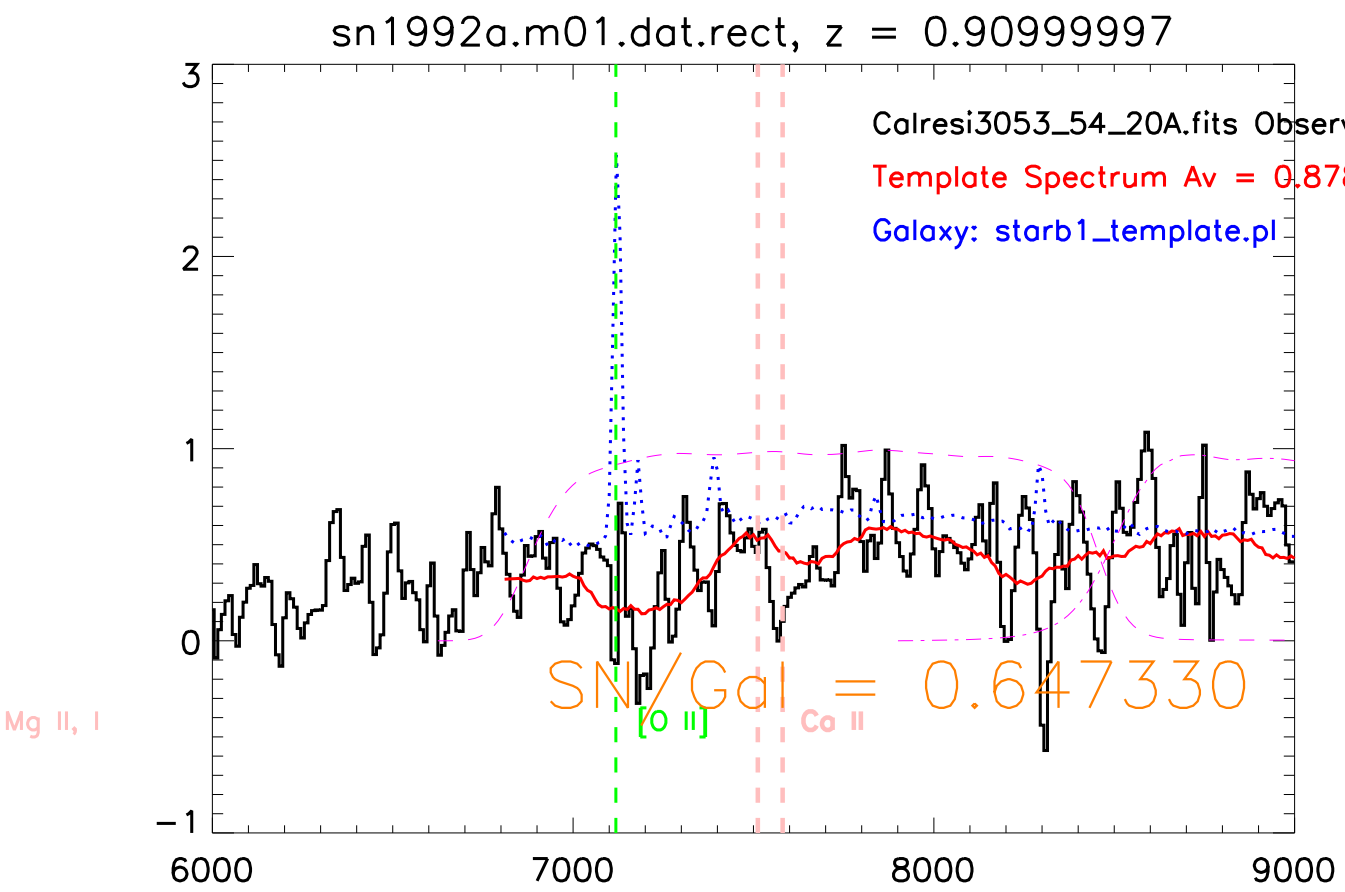

sn1989b.m01.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 0.24362245
Galaxy: starb1_template.pl
SN/Gal = 0.470526
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

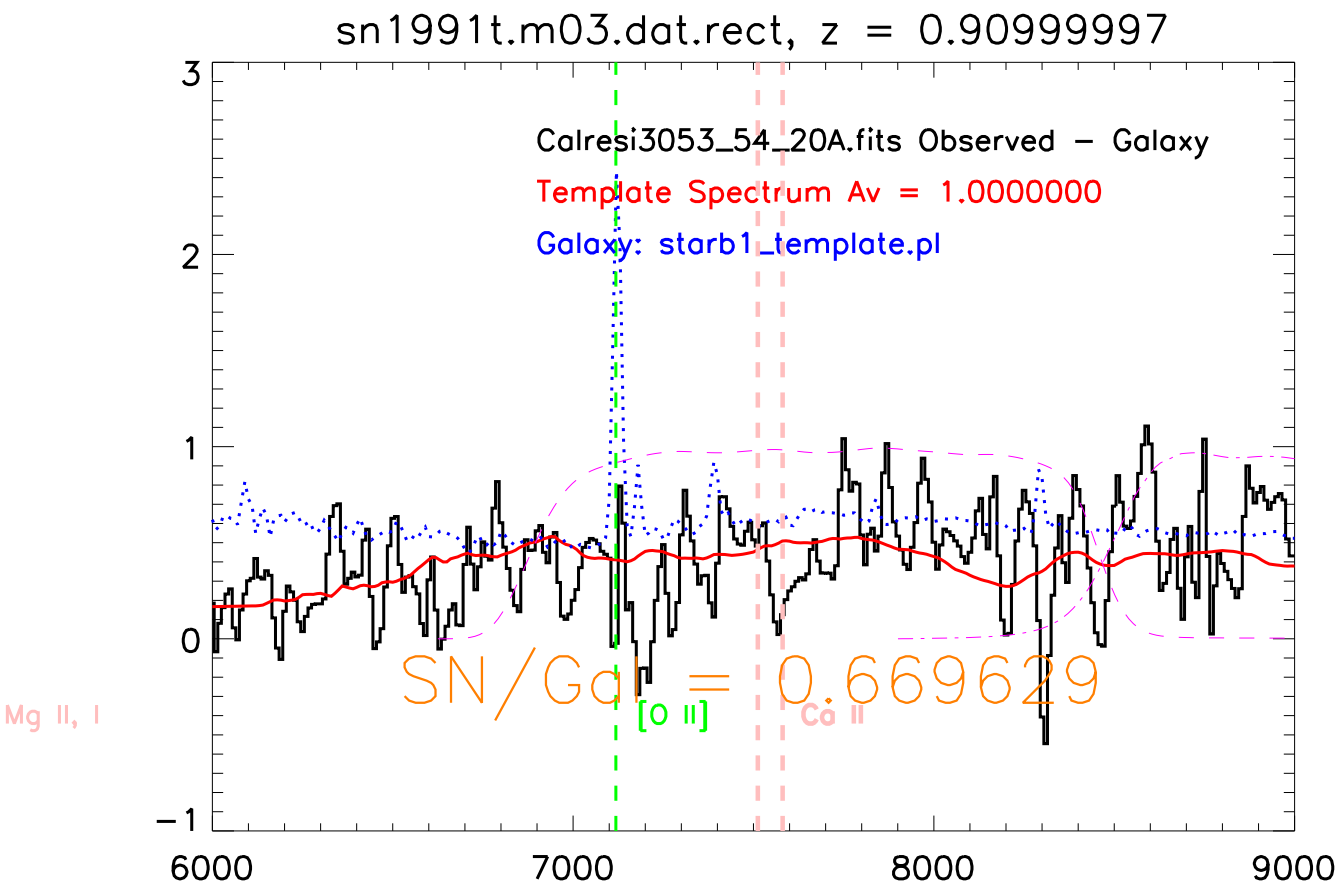

sn1992a.m05.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed – Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.686818
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

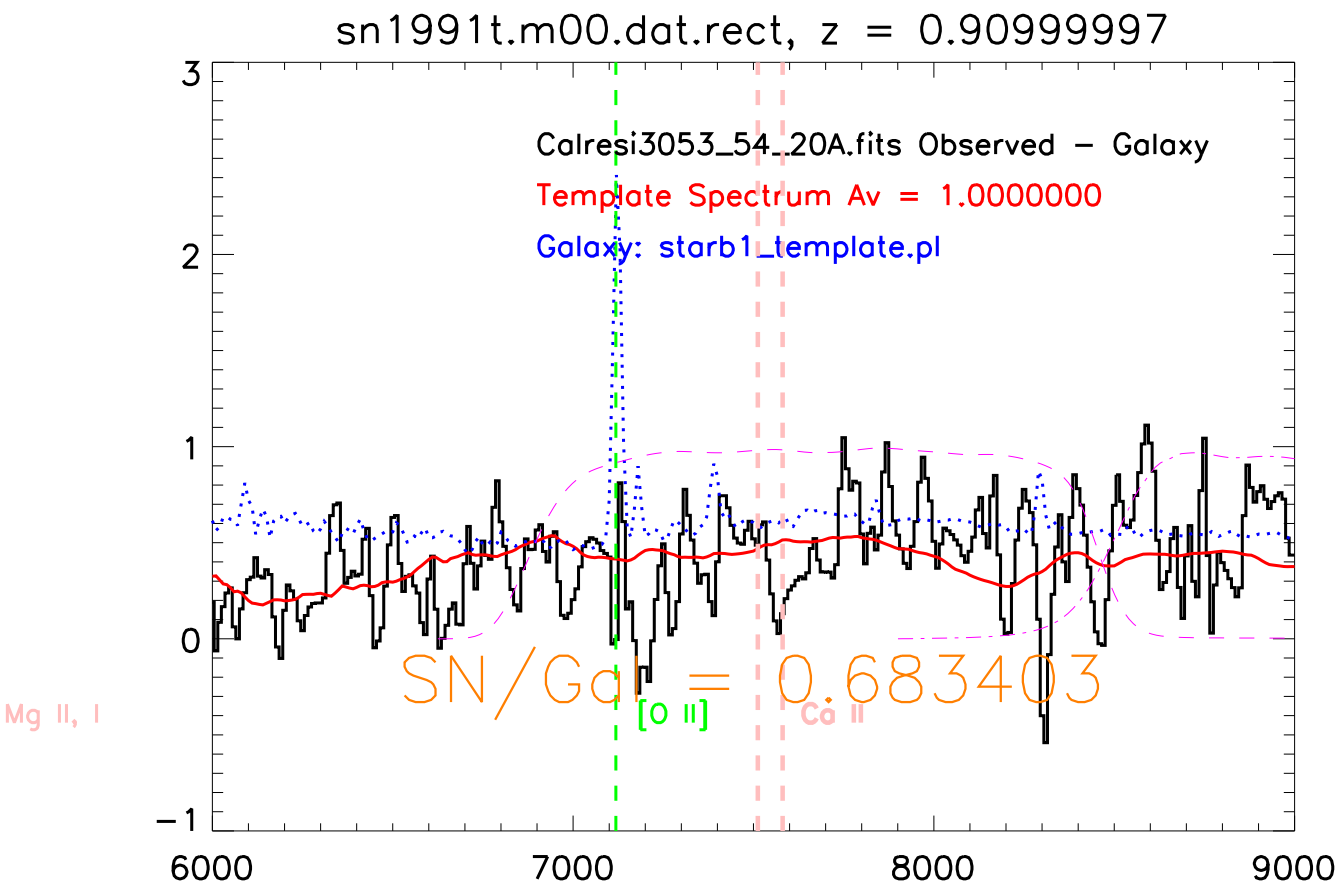

sn1996x.m00.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.541335
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

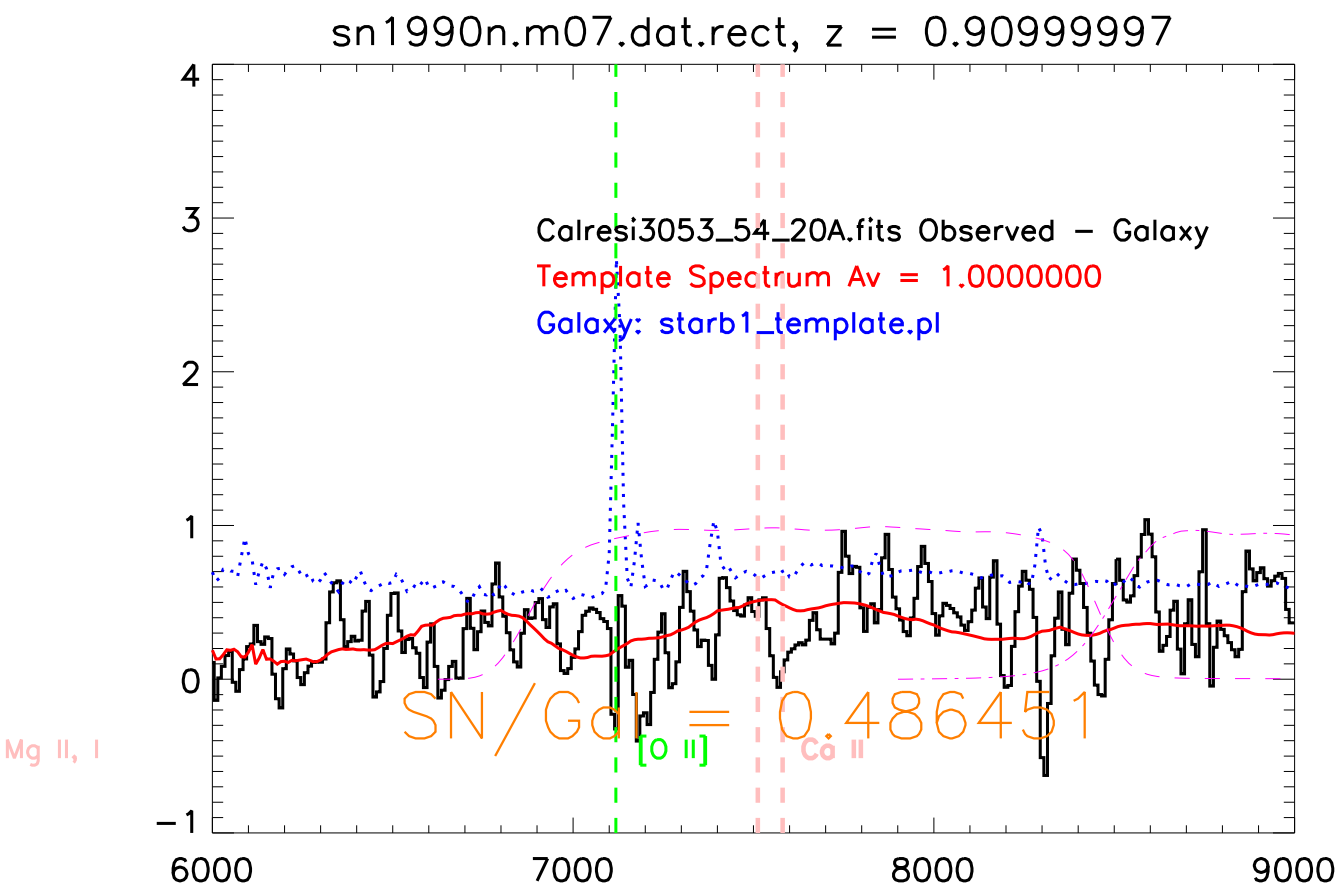

sn1994d.m03.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed – Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gdf = 0.905152
[O II]
Ca II
Mg II, I
2.5
2.0
1.5
1.0
0.5
0.0
−0.5
6000
7000
8000
9000

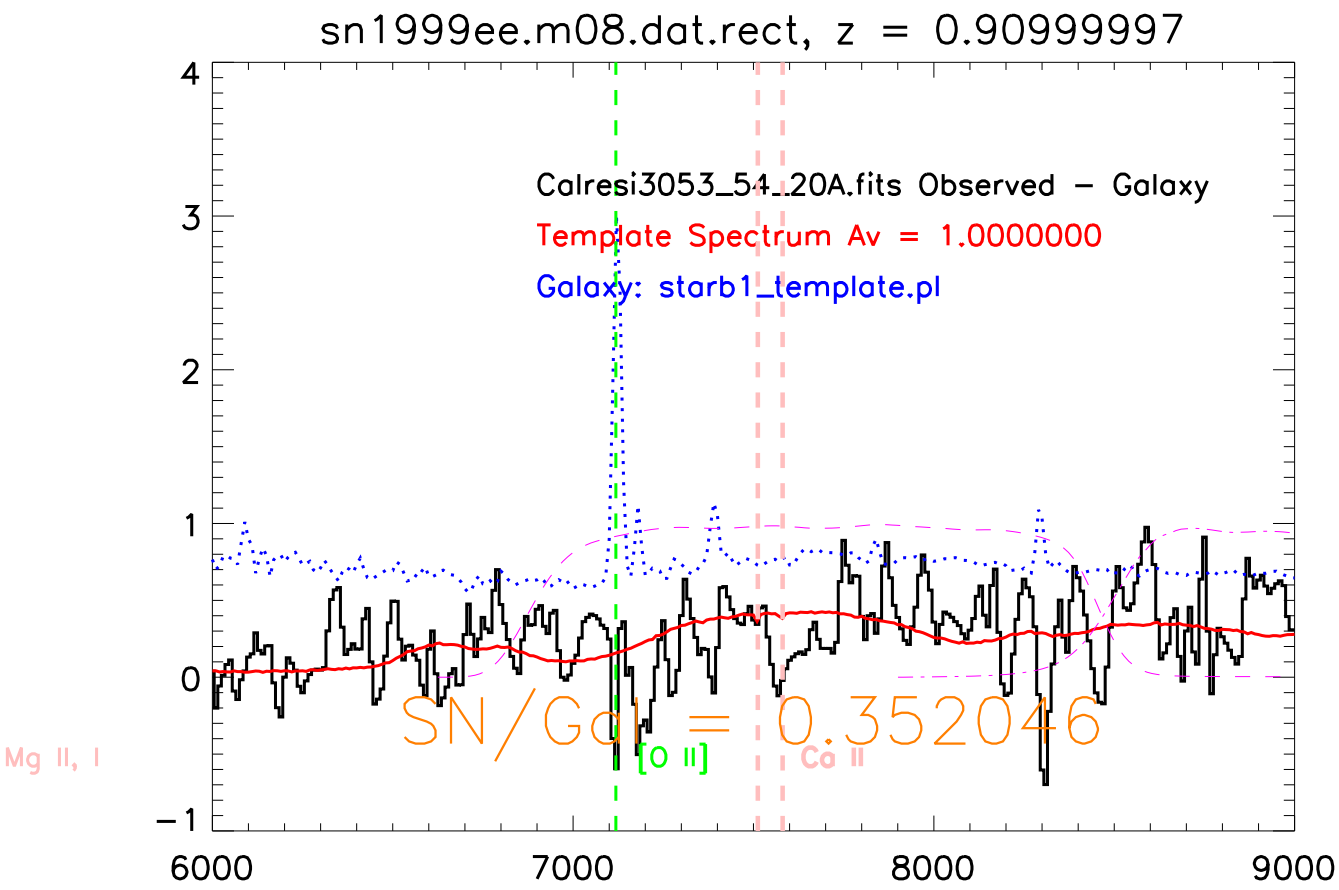

sn1994d.m04.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = −0.14668366
Galaxy: starb1_template.pl
SN/Gal = 0.692082
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

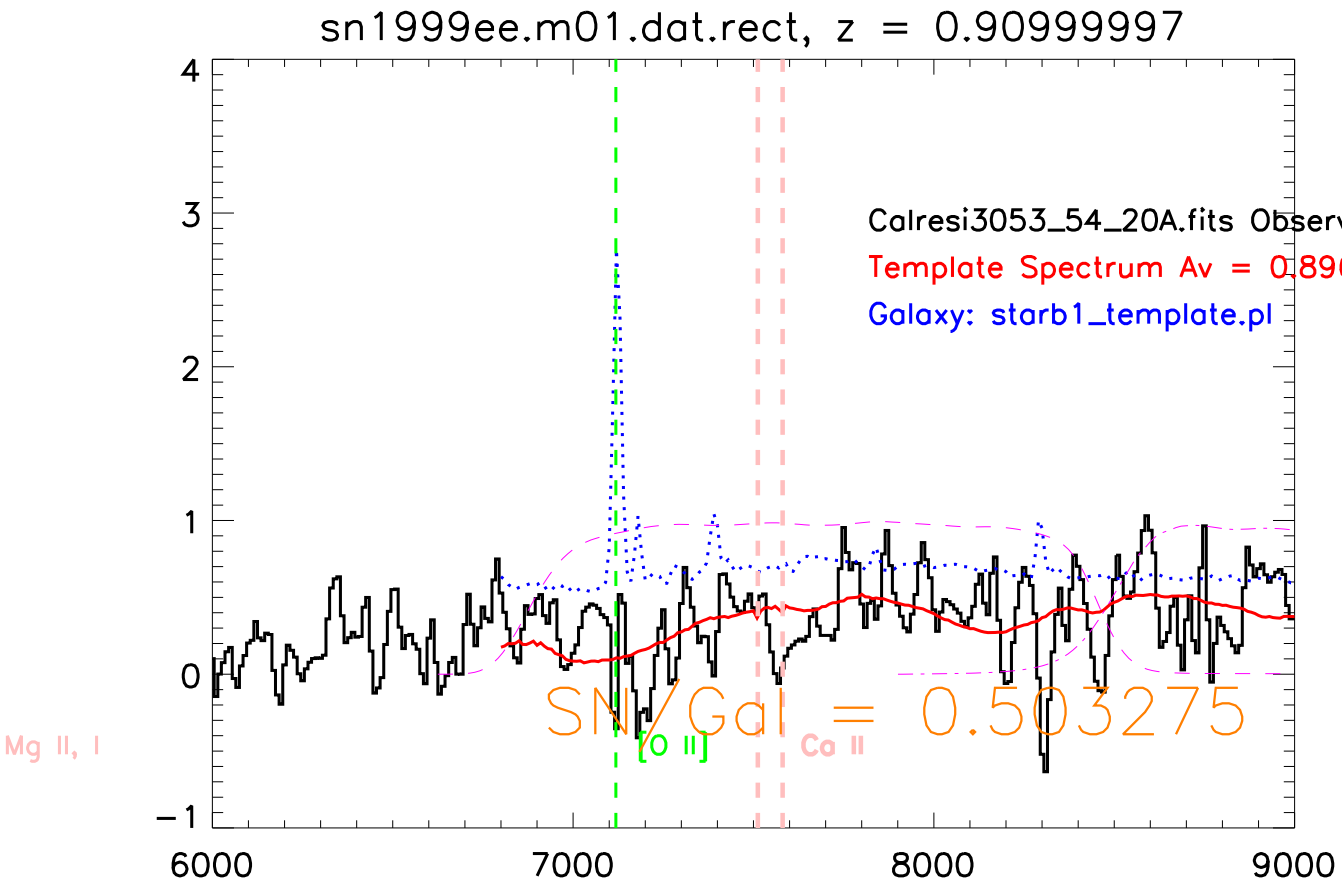

sn1992a.m01.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed – Gal
Template Spectrum Av = 0.87882659
Galaxy: starb1_template.pl
SN/Gal = 0.647330
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

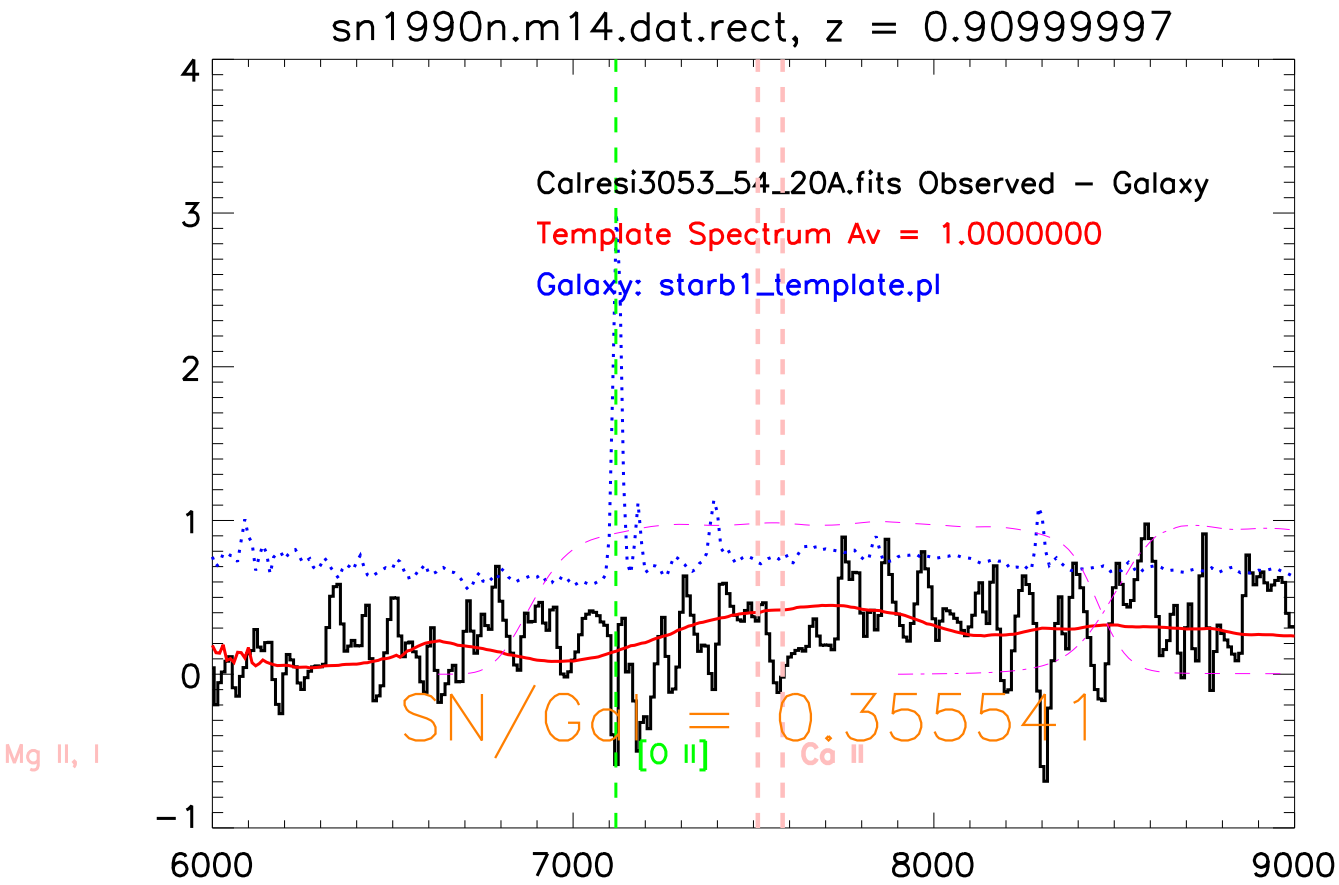

sn1991t.m03.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.669629
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

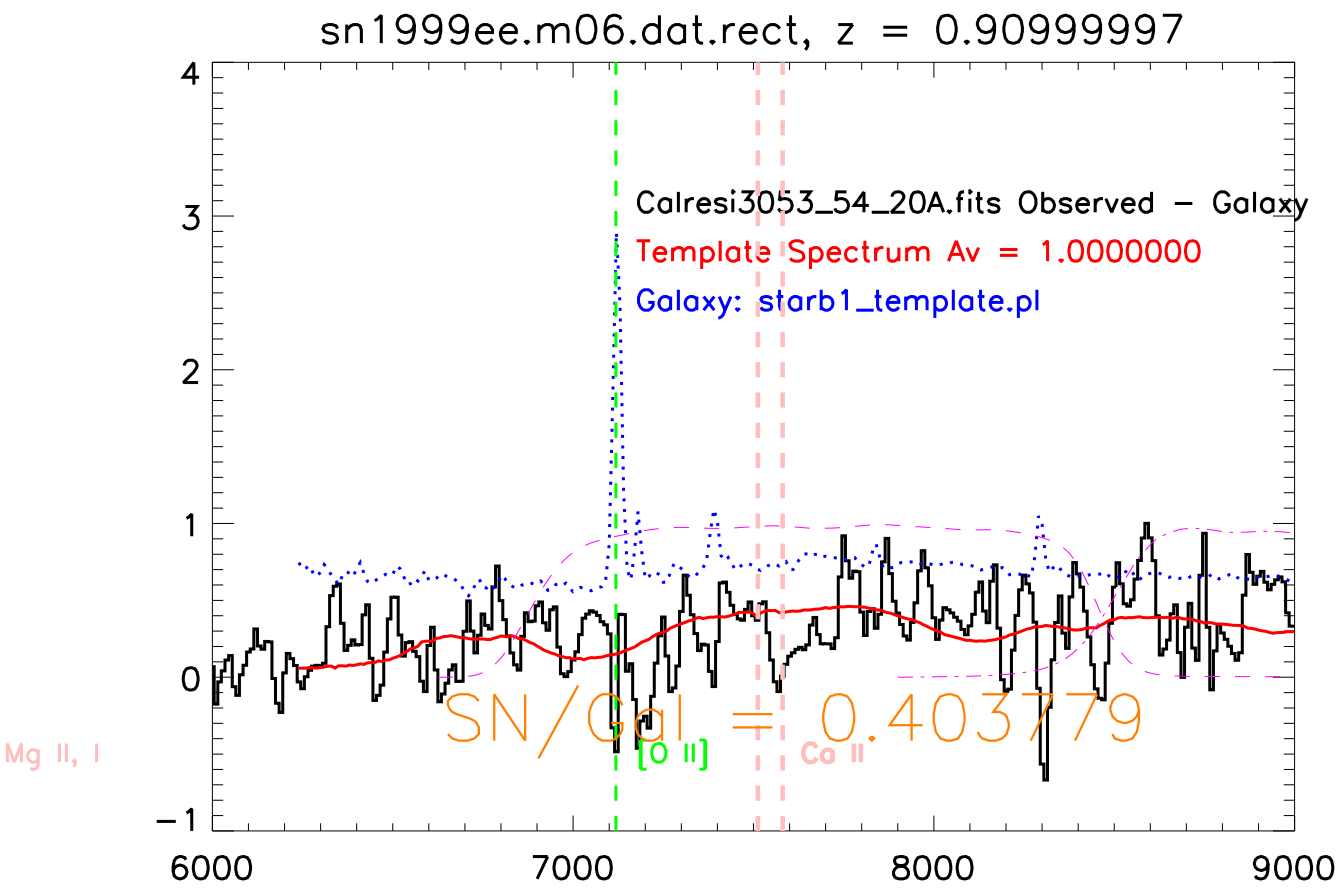

sn1991t.m00.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.683403
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

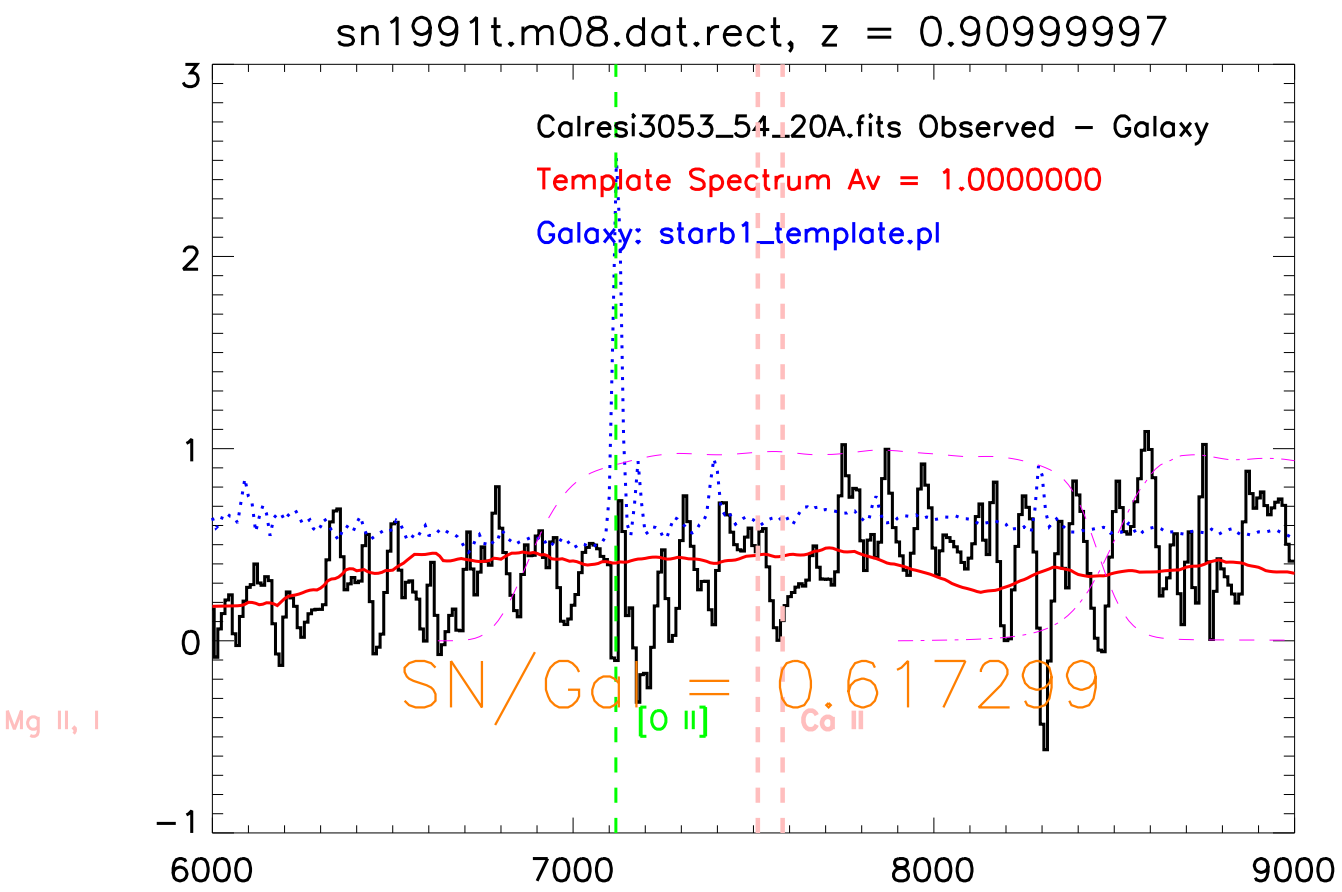

sn1990n.m07.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.486451
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

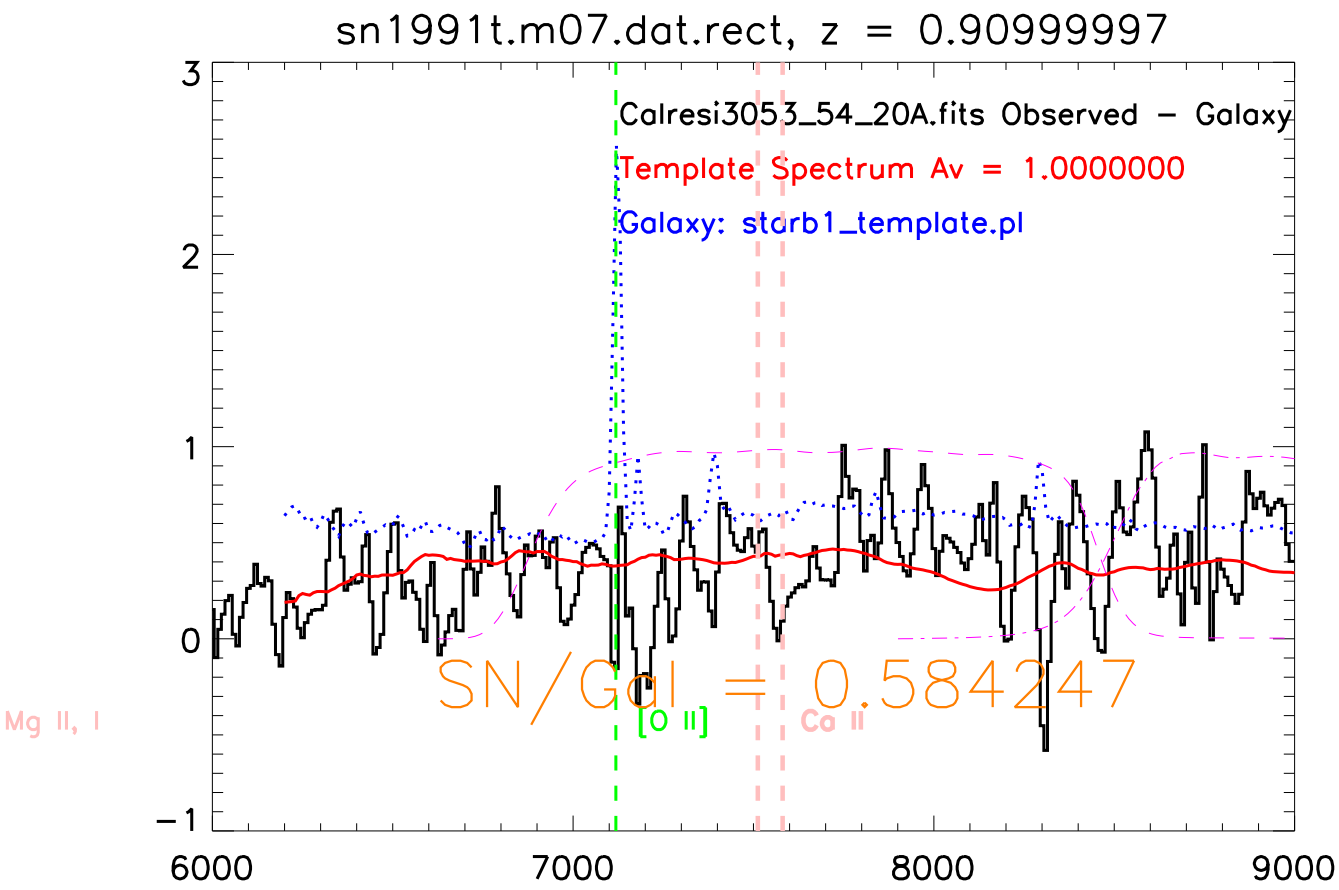

sn1999ee.m08.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.352046
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

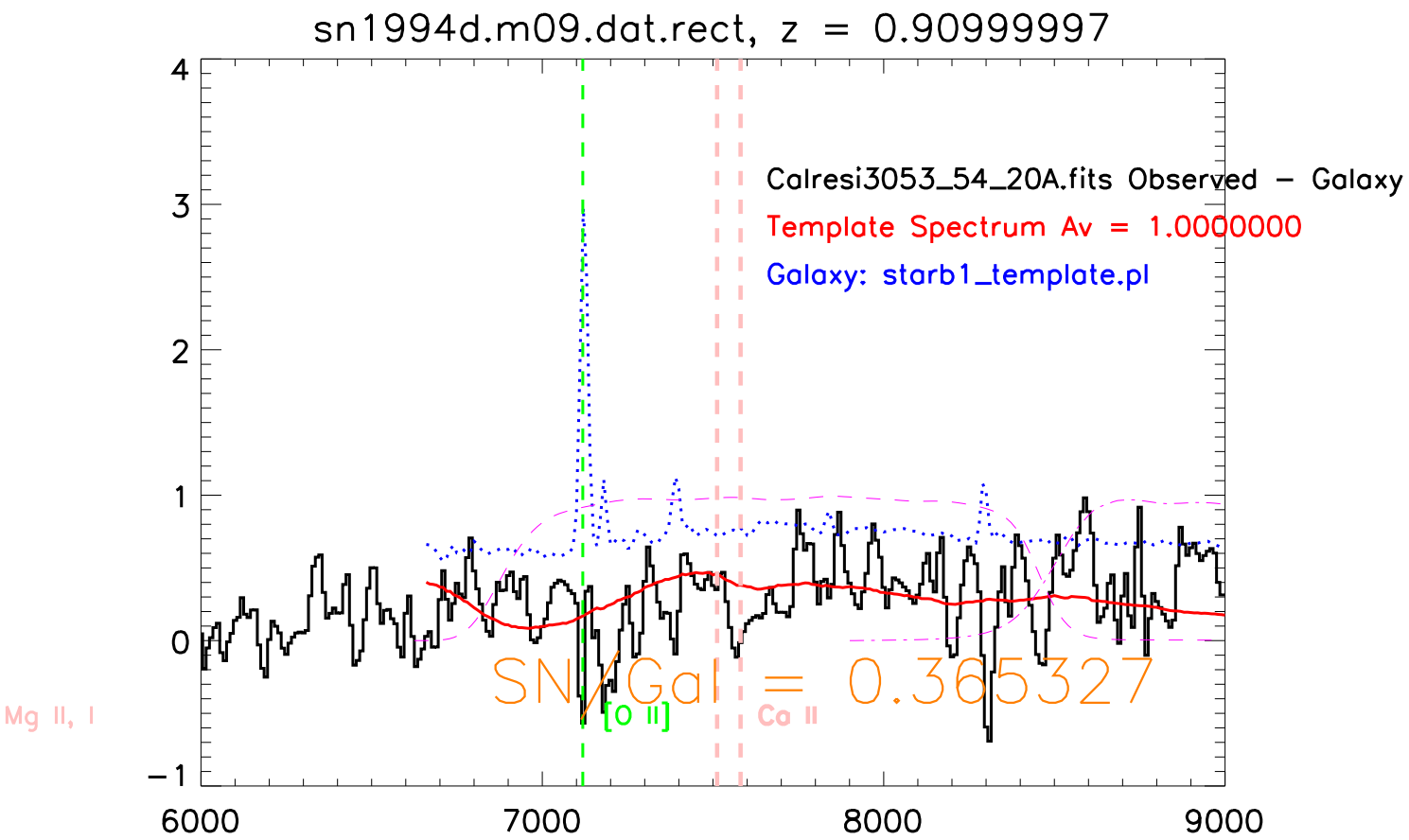

sn1999ee.m01.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed – Gala
Template Spectrum Av = 0.89668372
Galaxy: starb1_template.pl
SN/Gal = 0.503275
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

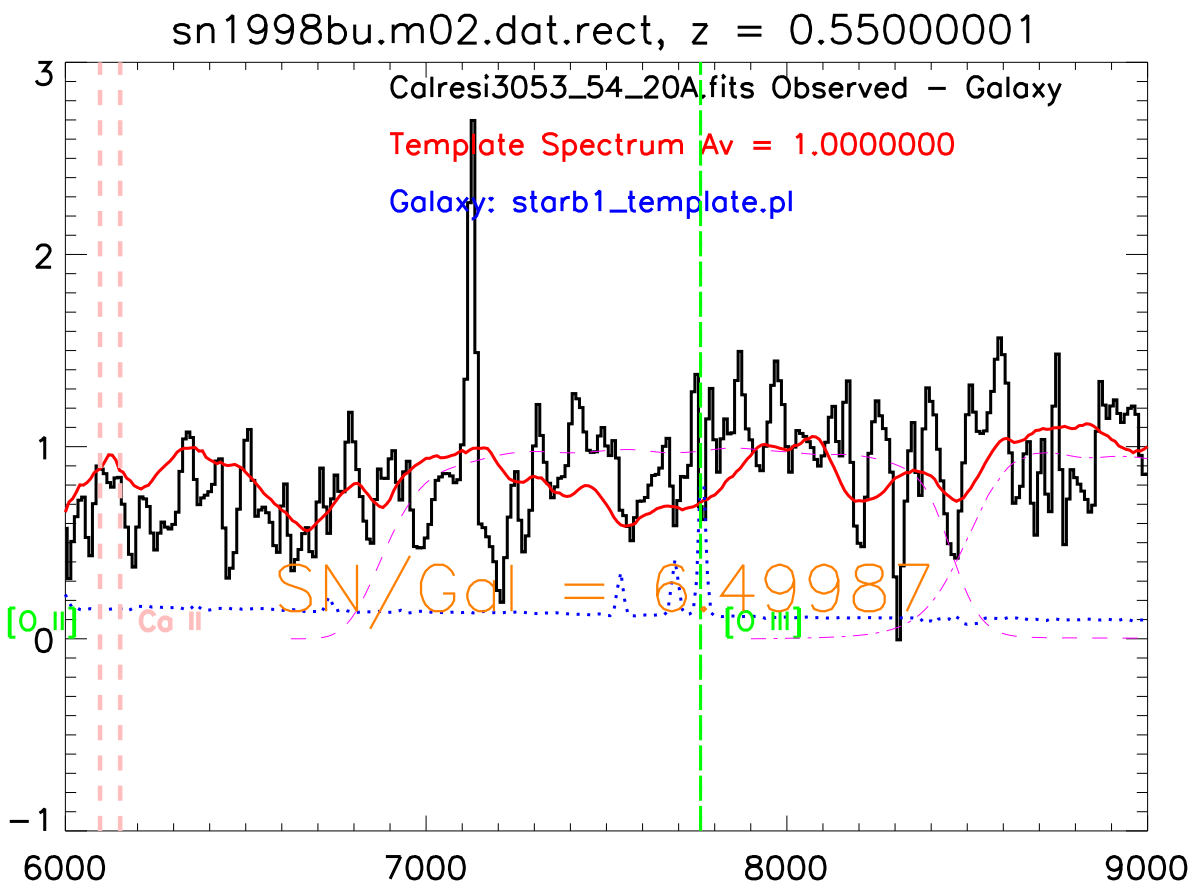

sn1990n.m14.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.355541
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

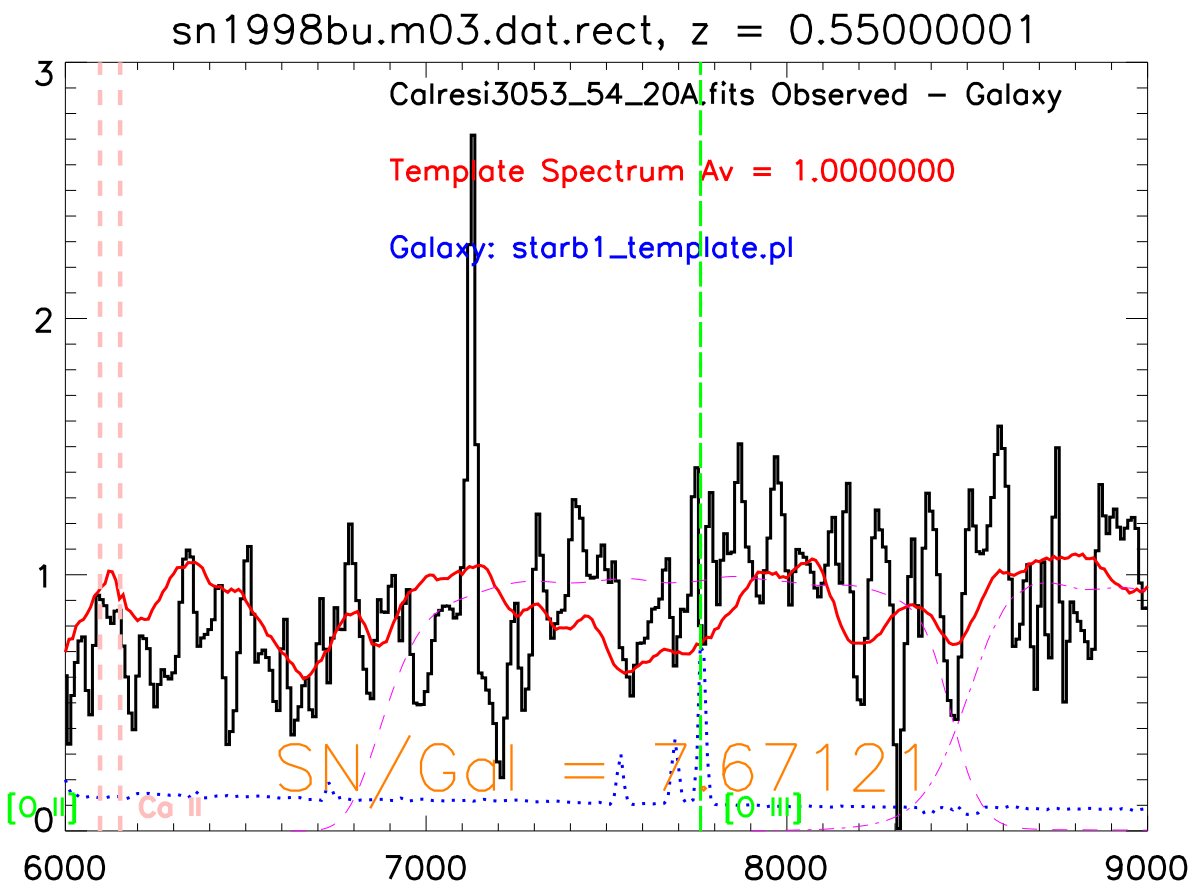

sn1999ee.m06.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.403779
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

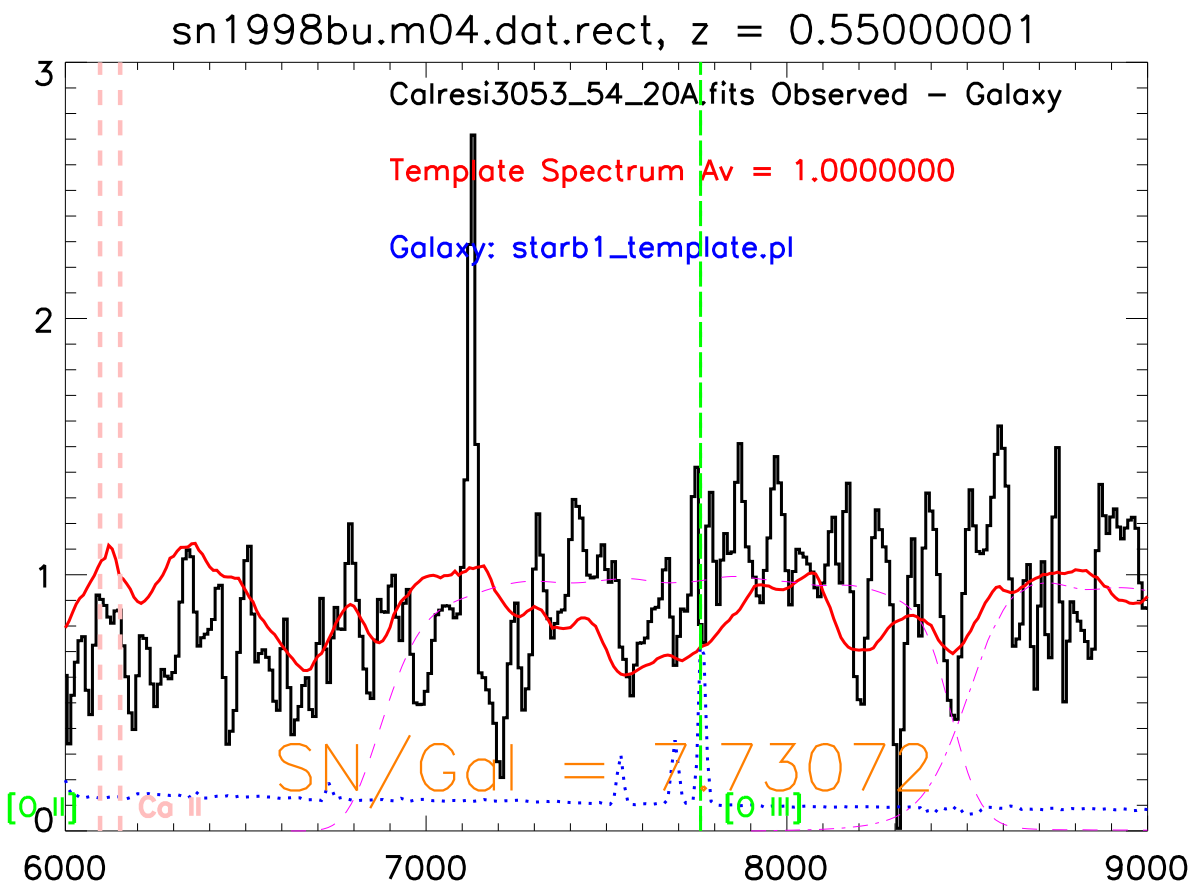

sn1991t.m08.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.617299
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

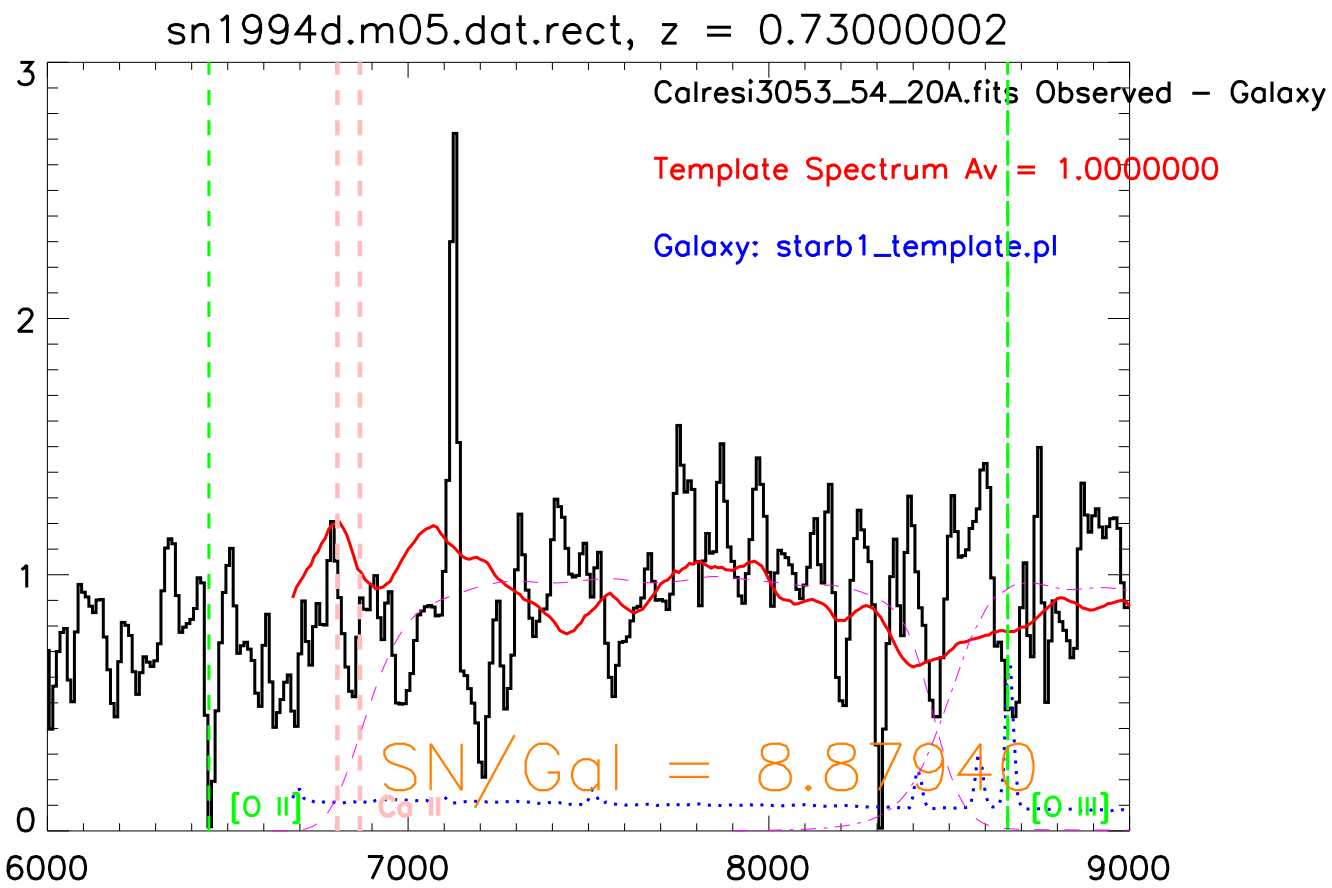

sn1991t.m07.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.584247
[O II]
Ca II
Mg II, I
3
2
1
0
−1
6000
7000
8000
9000

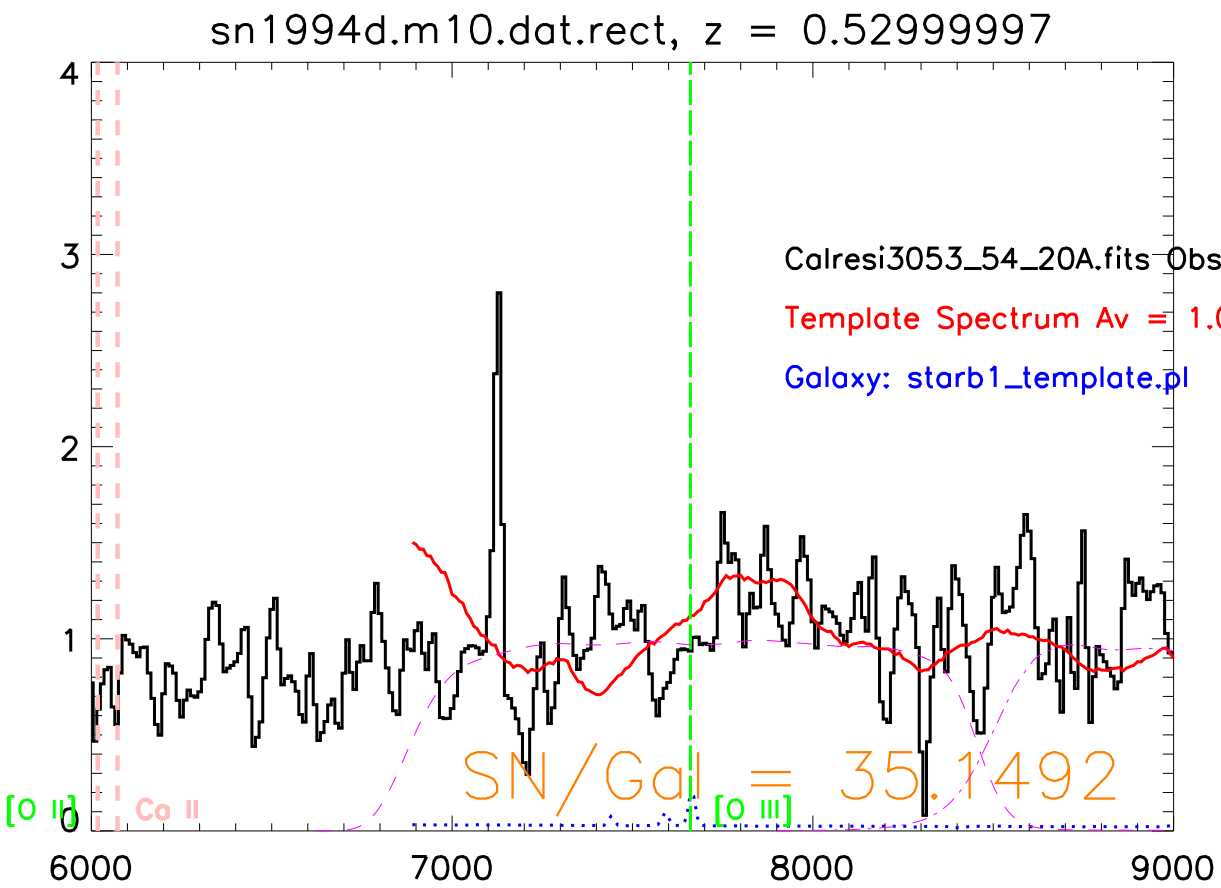

sn1994d.m09.dat.rect, z = 0.90999997
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.365327
[O II]
Ca II
Mg II, I
4
3
2
1
0
−1
6000
7000
8000
9000

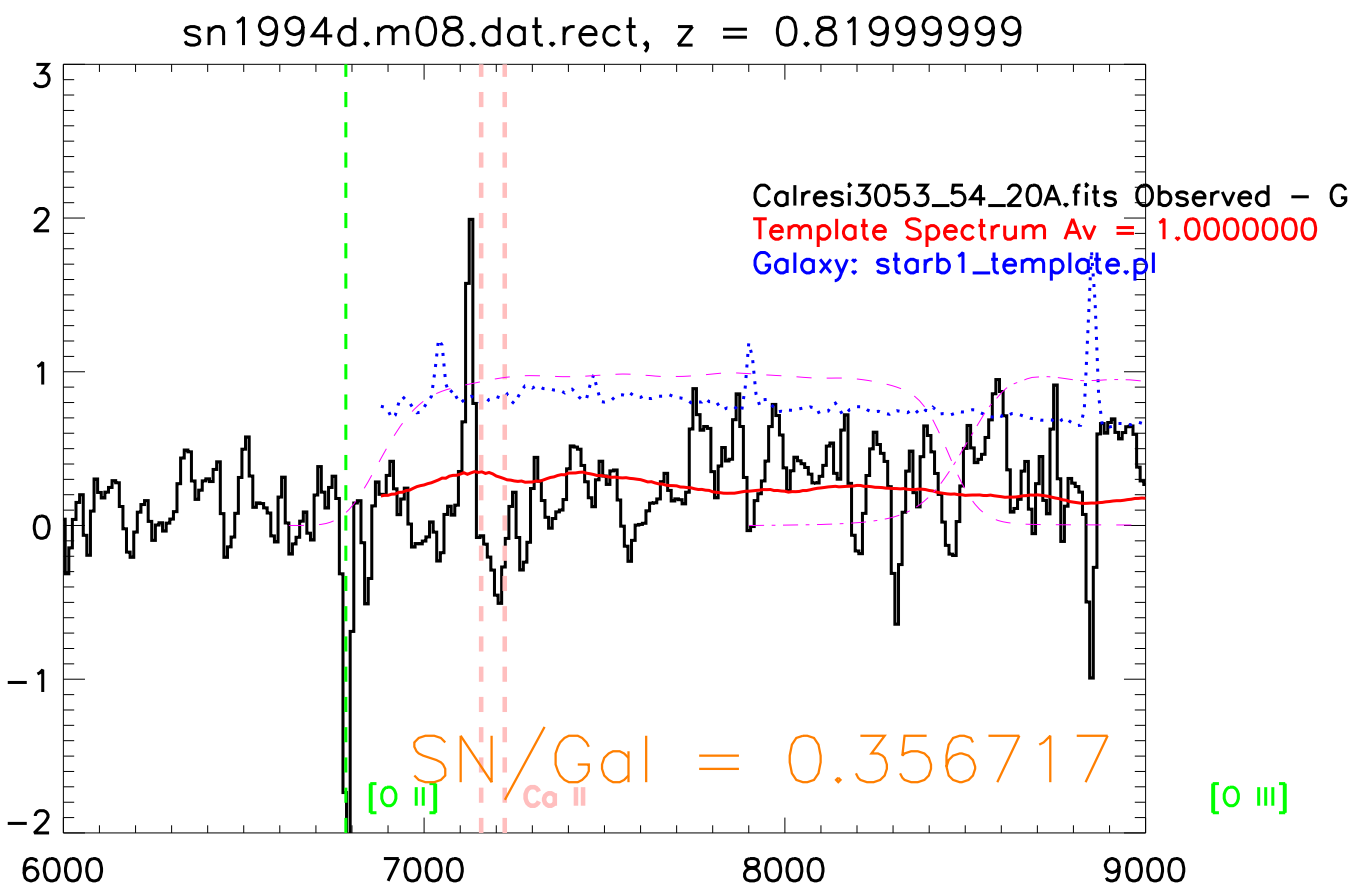

sn1998bu.m02.dat.rect, z = 0.55000001
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 6.49987
[O II]
Ca II
[O III]
3
2
1
0
−1
6000
7000
8000
9000

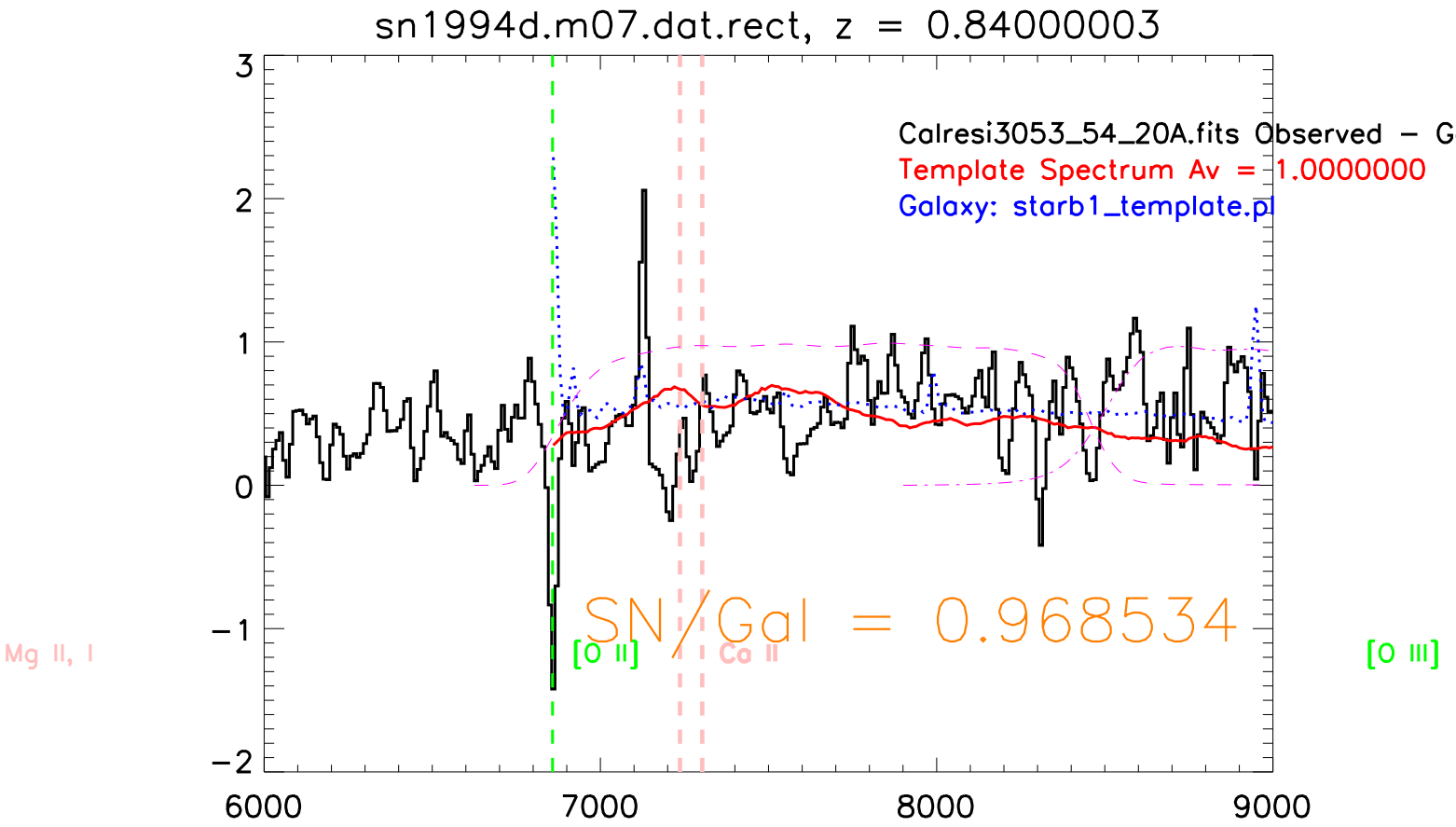

sn1998bu.m03.dat.rect, z = 0.55000001
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 7.67121
[O II]
Ca II
[O III]
3
2
1
0
6000
7000
8000
9000


sn1998bu.m04.dat.rect, z = 0.55000001
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 7.73072
[O II]
Ca II
[O III]
3
2
1
0
6000
7000
8000
9000


sn1994d.m05.dat.rect, z = 0.73000002
Calresi3053_54_20A.fits Observed − Galaxy
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 8.87940
[O II]
Ca II
[O III]
3
2
1
0
6000
7000
8000
9000


sn1994d.m10.dat.rect, z = 0.52999997
Calresi3053_54_20A.fits Observed – G
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 35.1492
[O II]
Ca II
[O III]
4
3
2
1
0
6000
7000
8000
9000


sn1994d.m08.dat.rect, z = 0.81999999
Calresi3053_54_20A.fits Observed – G
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.356717
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000


sn1994d.m07.dat.rect, z = 0.84000003
Calresi3053_54_20A.fits Observed – Ga
Template Spectrum Av = 1.0000000
Galaxy: starb1_template.pl
SN/Gal = 0.968534
Mg II, I
[O II]
Ca II
[O III]
3
2
1
0
−1
−2
6000
7000
8000
9000