

# Online Material

The following figures display for each of our program stars the observed spectrum (blue) with a model (red). The upper panel, corresponding to Fig. 3, shows the spectral energy distribution (IUE low-resolution spectrum if available, visual and 2MASS photometry). The model SED was geometrically diluted according to the distance modulus  $DM$  and reddened with  $E_{b-v}$  as given in the figure. Keywords CARDELLI or FITZPATRICK indicate the applied reddening law (default: Seaton's law), the given parameter being  $R_V$  (see Sect. 4.2).

Most models were taken from our PoWR model grids (see Hamann & Gräfener 2004). The grid parameters are  $\log T_*$  and  $\log R_*$ . Note that the grids were calculated for a fixed luminosity of  $\log L/L_\odot = 5.3$ , and only scaled for the individual star; the scaling factor is indicated as the logarithmic "shift" in the plots. The so-called WNE grid is calculated for zero hydrogen and a terminal wind velocity of 1600 km/s, while the models in the WNL grid have 20% hydrogen (by mass) and  $v_\infty = 1000$  km/s.

As the plotted models are mostly taken from the prepared grids (if not otherwise stated), their hydrogen abundance  $X_H$  and terminal velocity  $v_\infty$  do generally not agree precisely with the final parameters of our analysis as given in Table 2.

MODEL START 04/01/03 20:19:23 112202/0.3D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 14-18 AFTER JOB NO.311

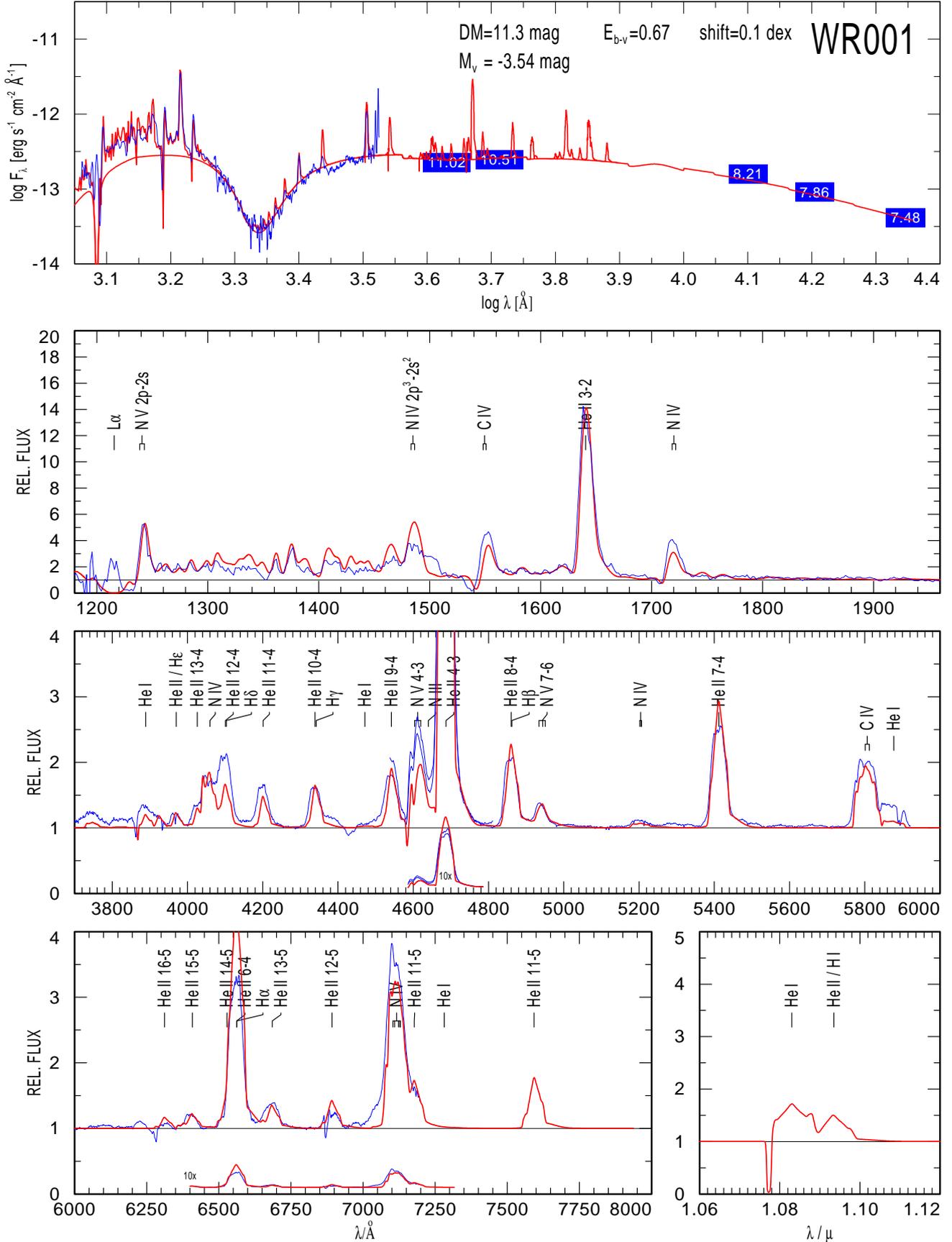


Fig. 12. Model: WNE 14-18,  $T_* = 112$  kK,  $\log(R_1/R_\odot) = 0.3$

MODEL START 03/13/03 16:31:27 141254/0.5D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 16-16 AFTER JOB NO.961

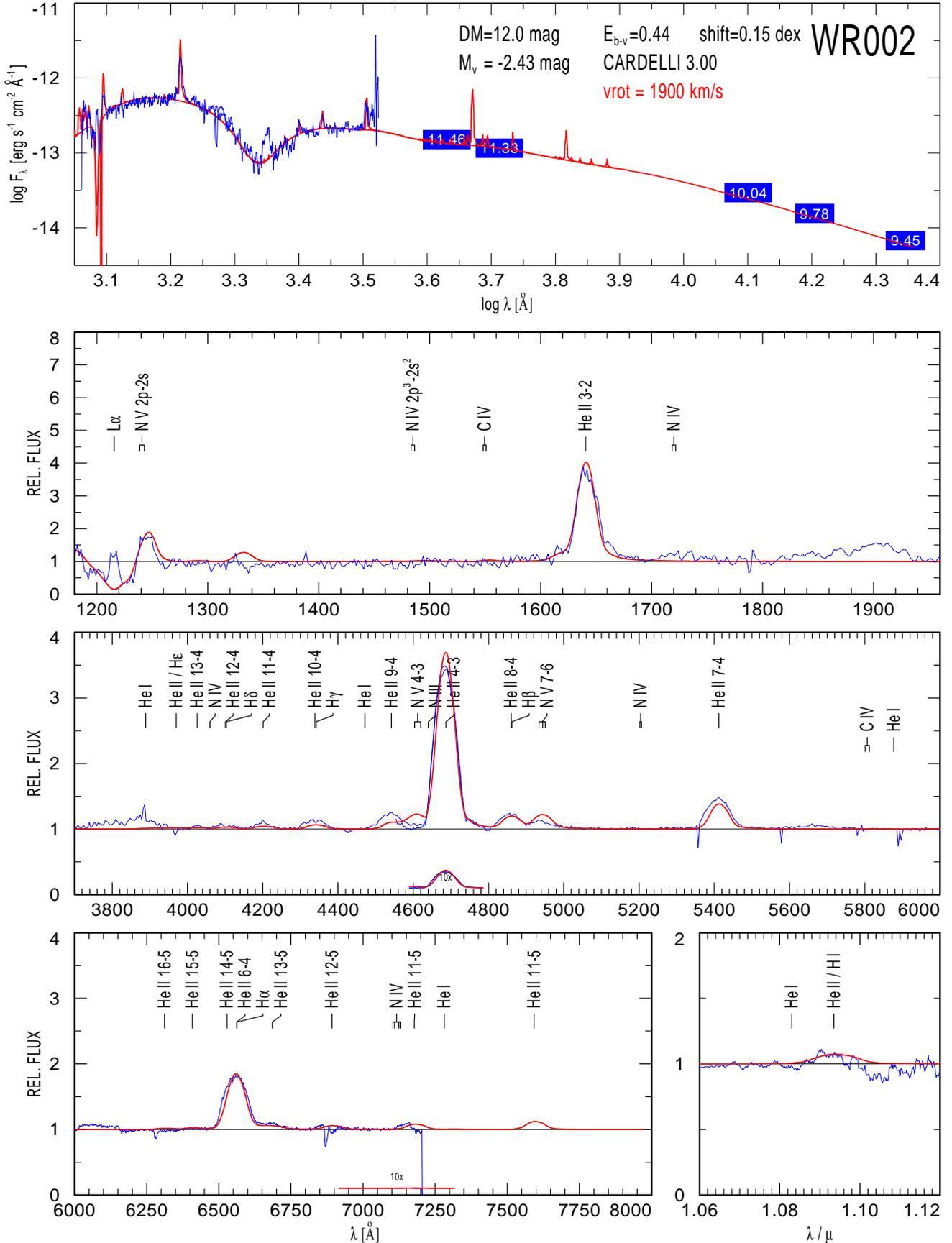
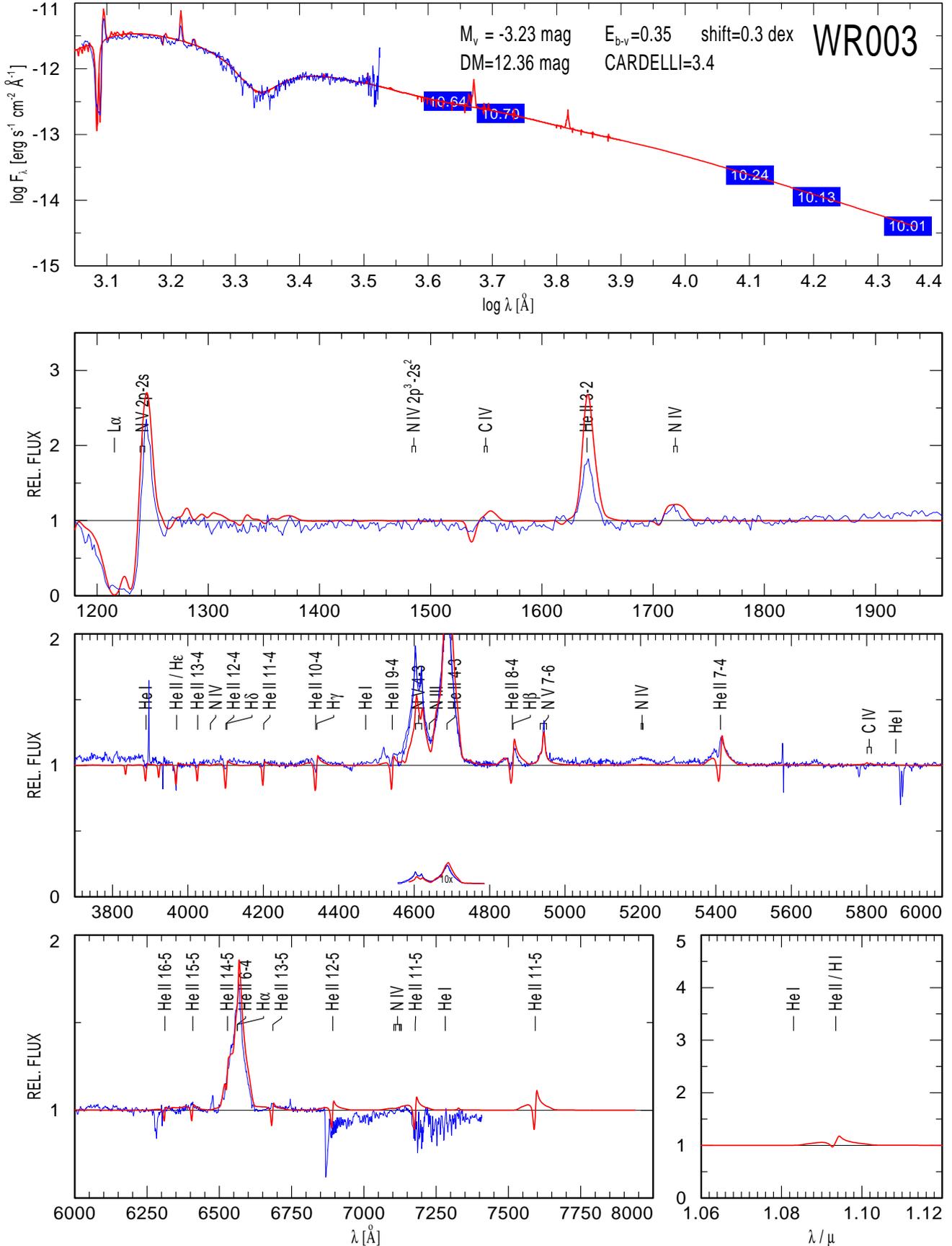


Fig. 13. Model: WNE 16-16,  $T_* = 141$  kK,  $\log(R_1/R_\odot) = 0.5$

MODEL START 08/29/05 09:53:32 89125/1.2D/2700 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 12-09 AFTER JOB NO.569



**Fig. 14.** Individual Model: WNL 12-09,  $T_* = 89 \text{ kK}$ ,  $\log(R_t/R_\odot) = 1.2$  but  $v_\infty = 2700 \text{ km/s}$

MODEL START 03/08/03 04:38:11 89125/0.3D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 12-18 AFTER JOB NO.185

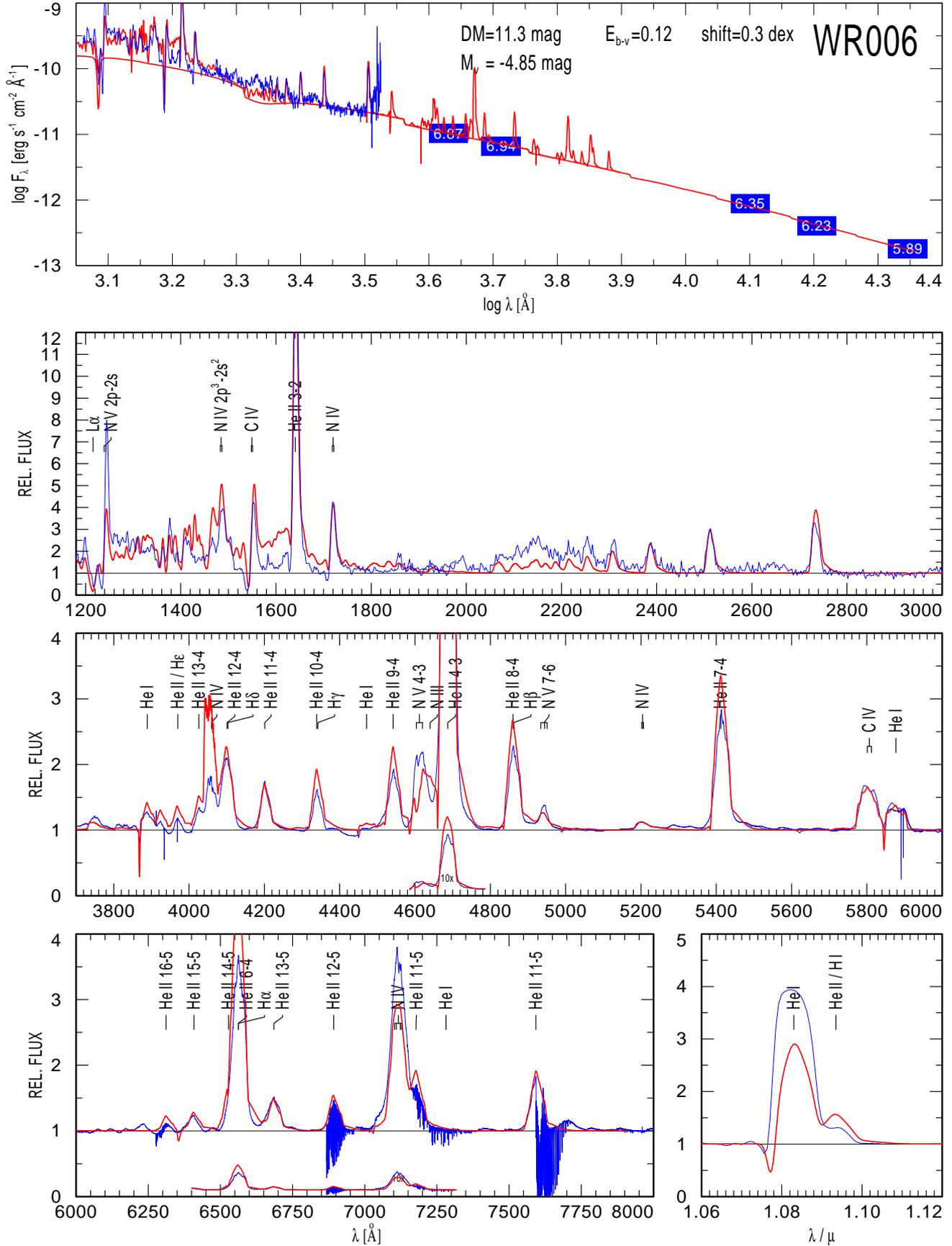


Fig. 15. Model: WNE 12-18,  $T_* = 89$  kK,  $\log(R_t/R_\odot) = 0.3$

MODEL START 04/01/03 20:19:23 112202/0.3D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 14-18 AFTER JOB NO.311

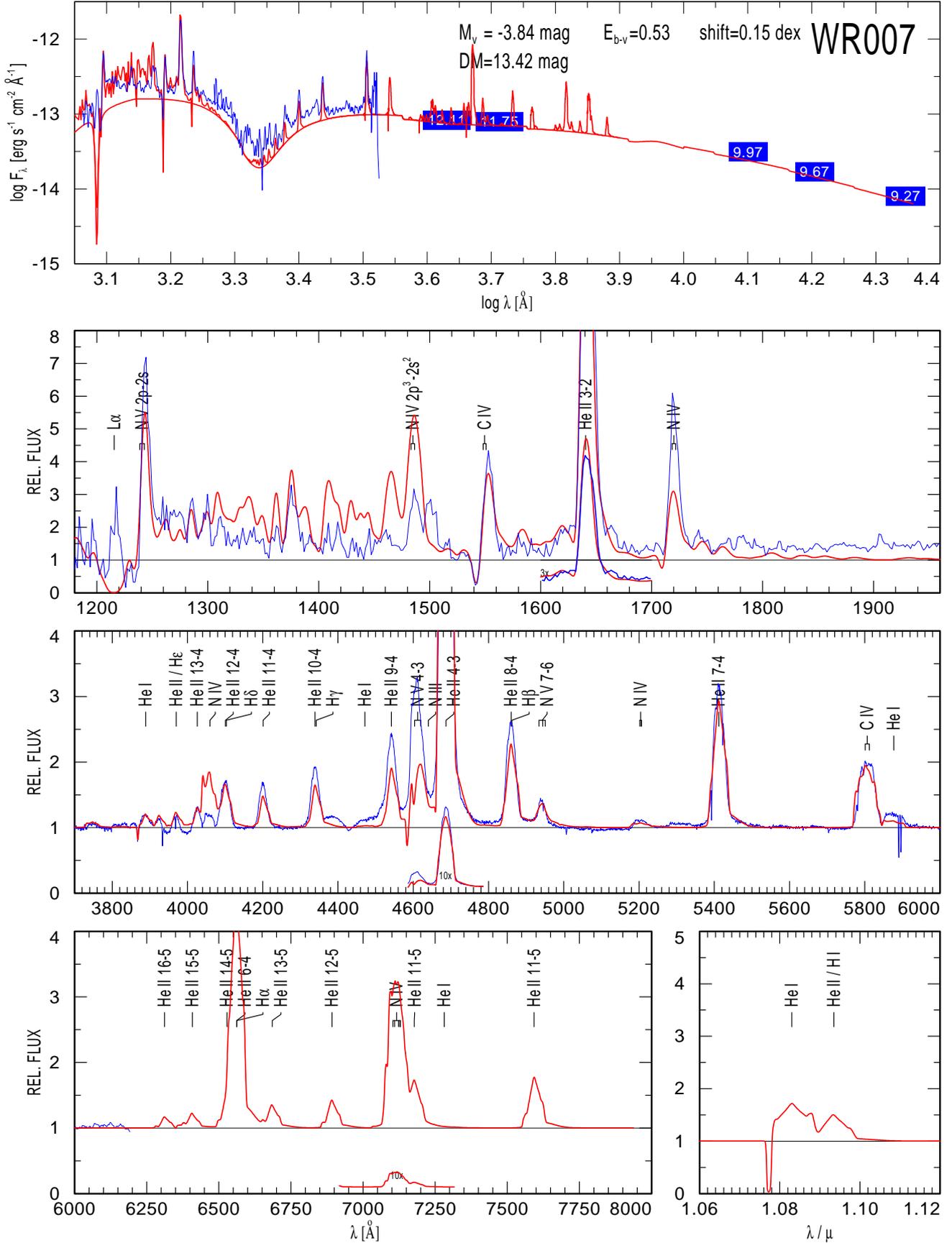


Fig. 16. Model: WNE 14-18,  $T_* = 112 \text{ kK}$ ,  $\log(R_1/R_\odot) = 0.3$

MODEL START 10/27/03 09:21:21 63096/1.2D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 09-09 AFTER JOB NO.625

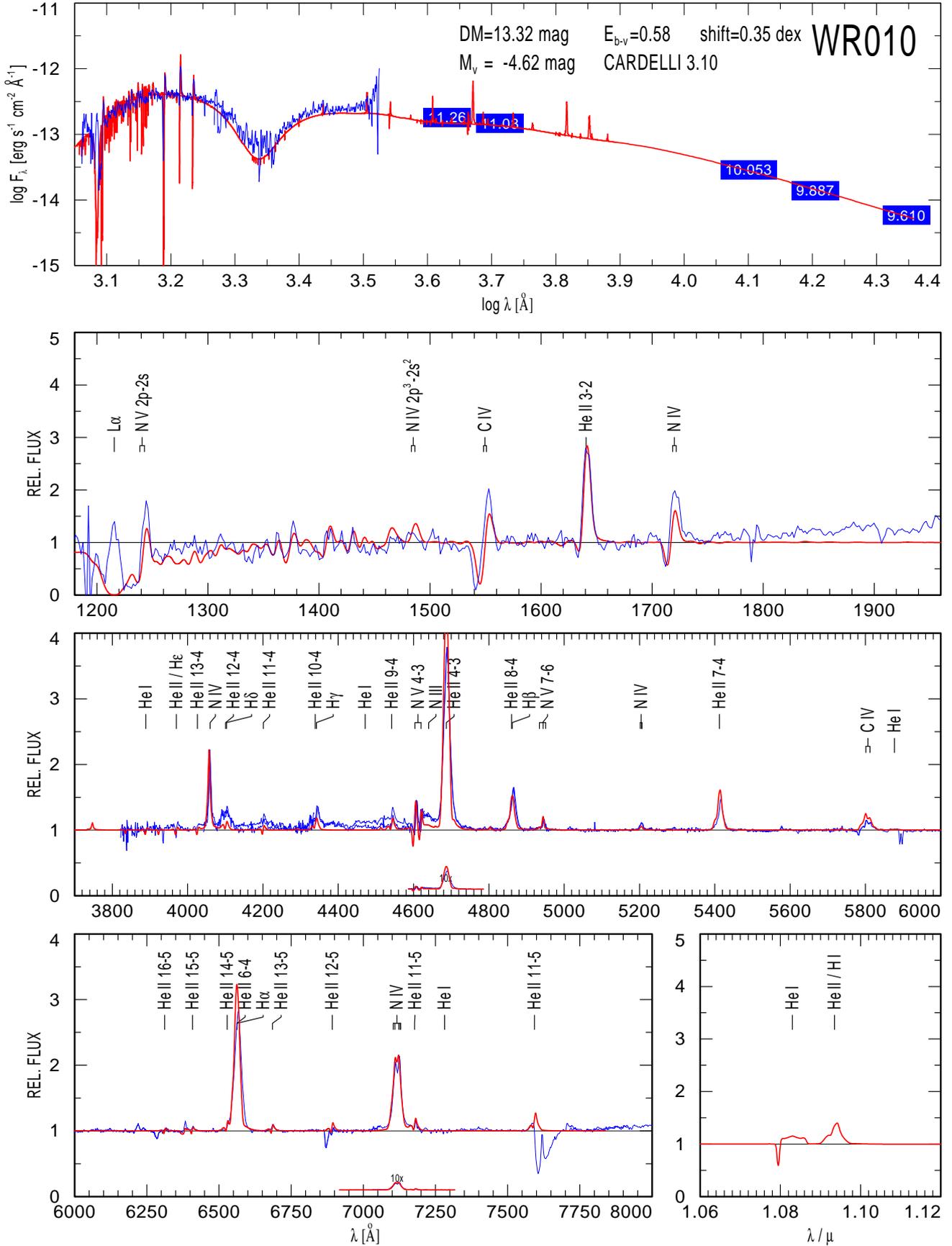


Fig. 17. Model: WNL 09-09,  $T_* = 63$  kK,  $\log(R_t/R_\odot) = 1.2$

MODEL START 11/24/03 09:56:15 44668/1.0D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-11 AFTER JOB NO.727

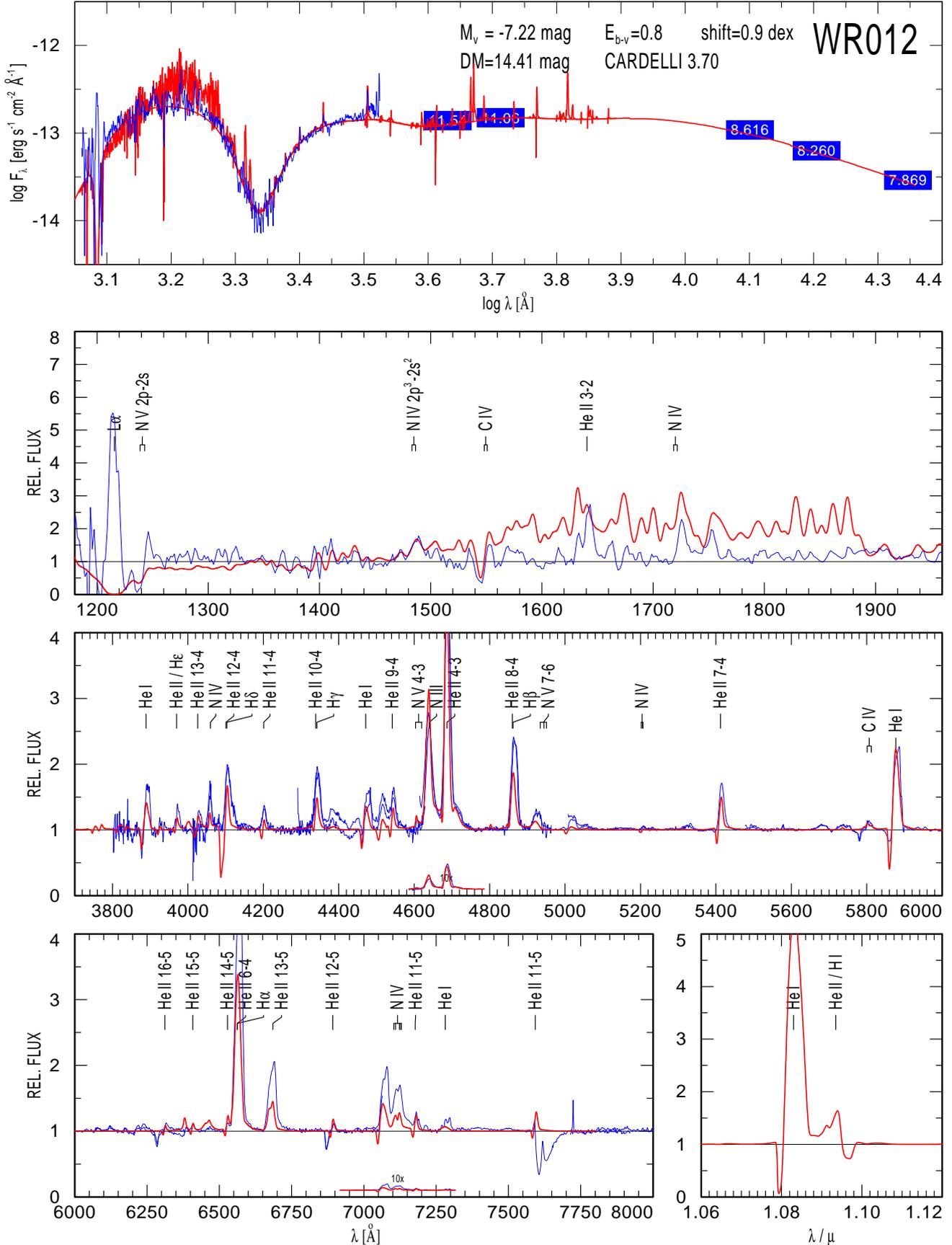
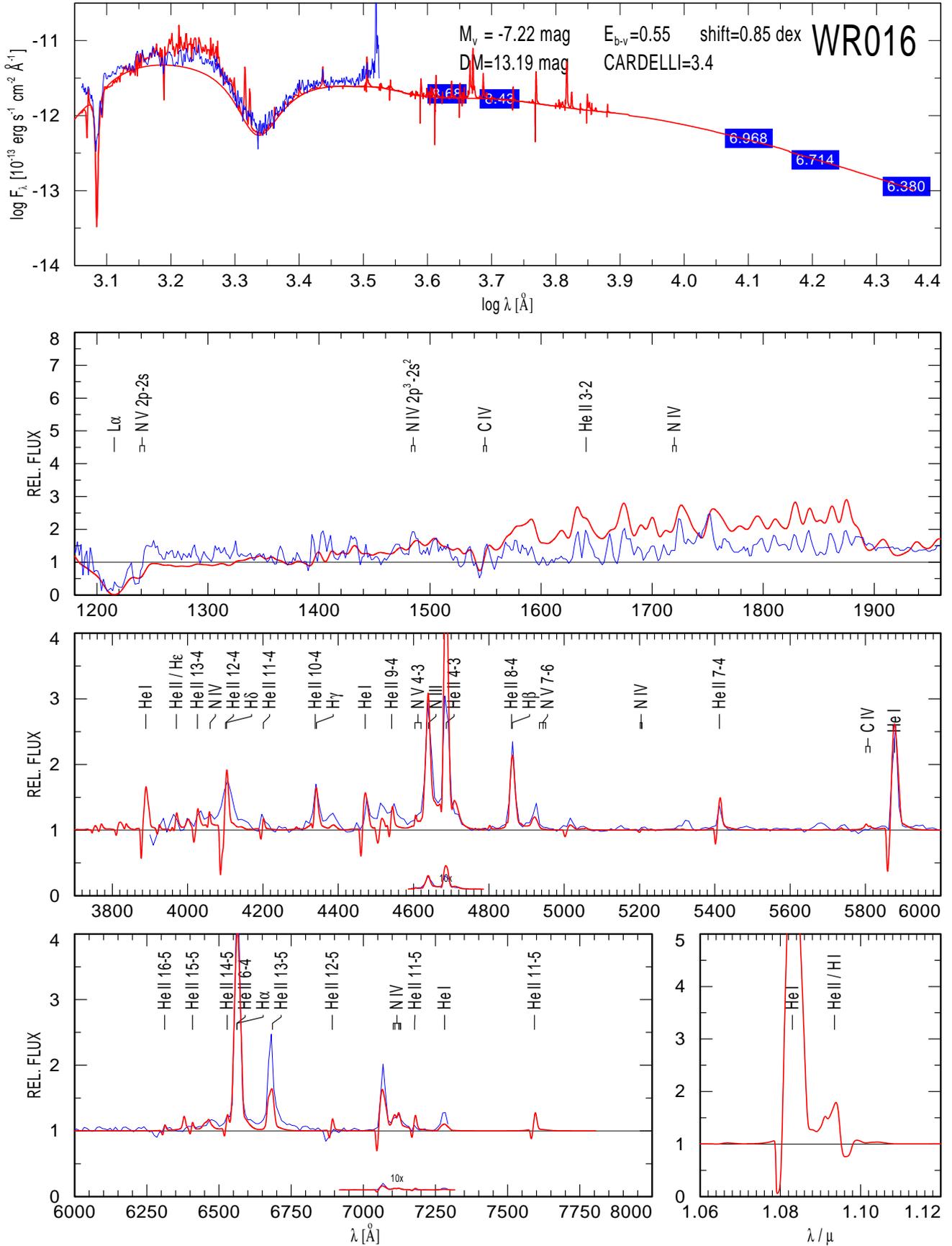


Fig. 18. Model: WNL 06-11,  $T_* = 45$  kK,  $\log(R_t/R_\odot) = 1.0$

MODEL START 11/25/03 12:51:17 44668/0.9D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-12 AFTER JOB NO.667



**Fig. 19.** Model: WNL 06-12,  $T_* = 45$  kK,  $\log(R_t/R_\odot) = 0.9$

MODEL START 04/01/03 20:19:23 112202/0.3D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 14-18 AFTER JOB NO.311

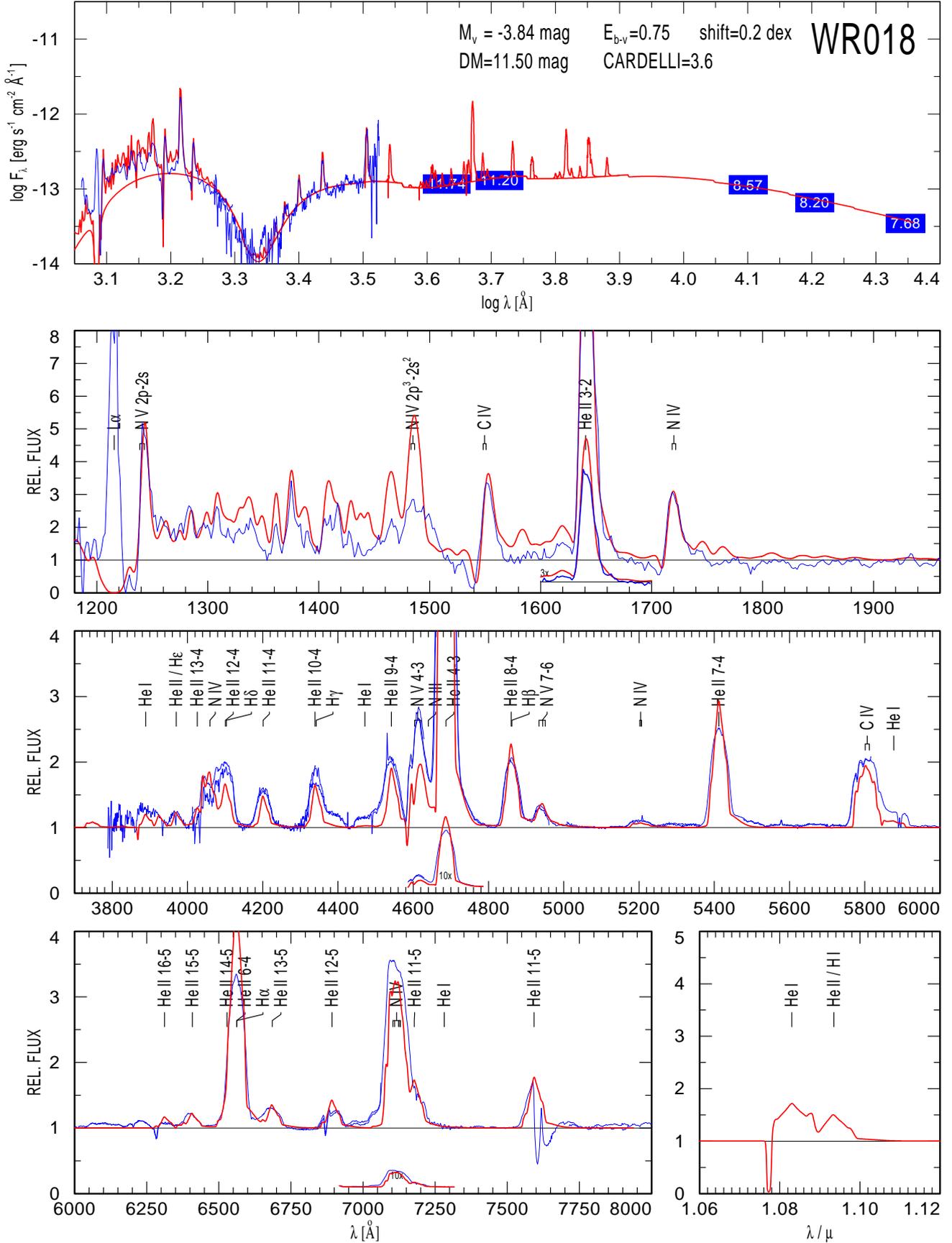


Fig. 20. Model: WNE 14-18,  $T_* = 112 \text{ kK}$ ,  $\log(R_1/R_\odot) = 0.3$

MODEL START 04/04/03 12:29:14 63096/0.9D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 09-12 AFTER JOB NO.946

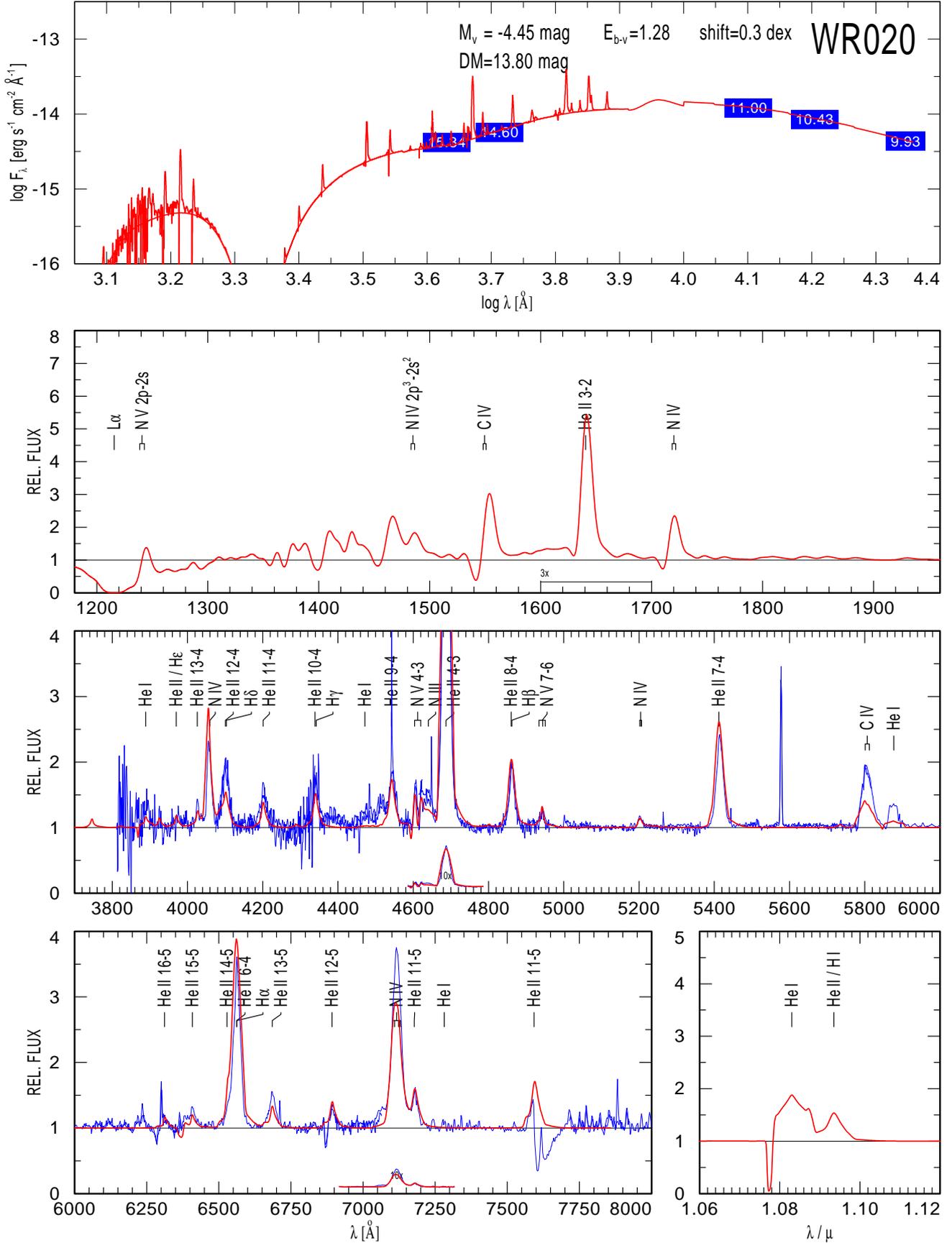


Fig. 21. Model: WNE 09-12,  $T_* = 63 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.9$

MODEL START 06/08/05 17:21:29 44668/1.30D/1800 L5.3 H40 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-08 AFTER JOB NO.365

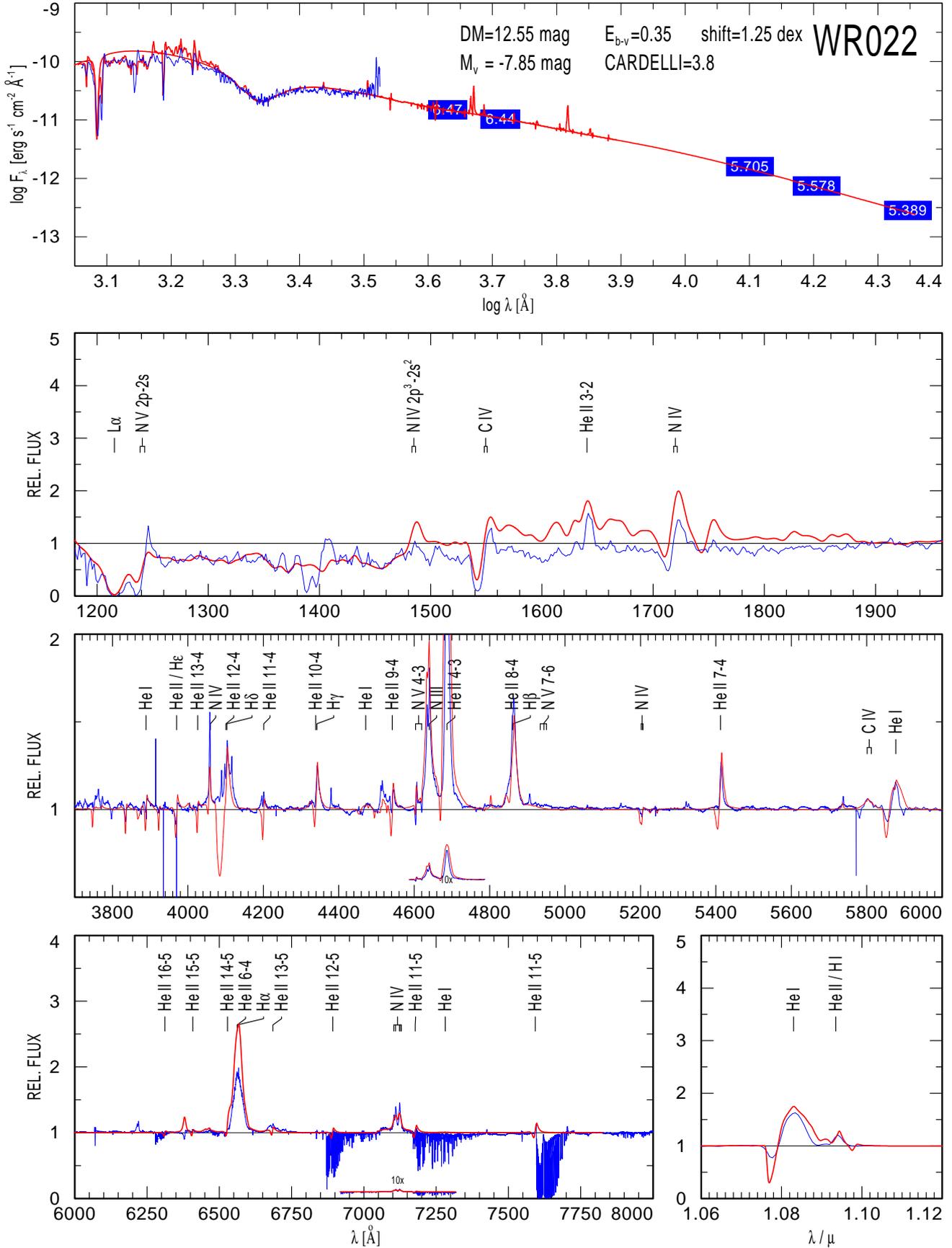


Fig. 22. Individual Model: 06-08,  $T_* = 45$  kK,  $\log(R_t/R_\odot) = 1.3$  with  $v_\infty = 1800$  km/s and  $X_H = 0.40$

MODEL START 12/15/05 11:45:45 50119/1.35D/2000 L=5.3 H44 N1.5% C1E-4 Fe.14% D4 WNL-NODR 07-08sp AFTER JOB NO.237

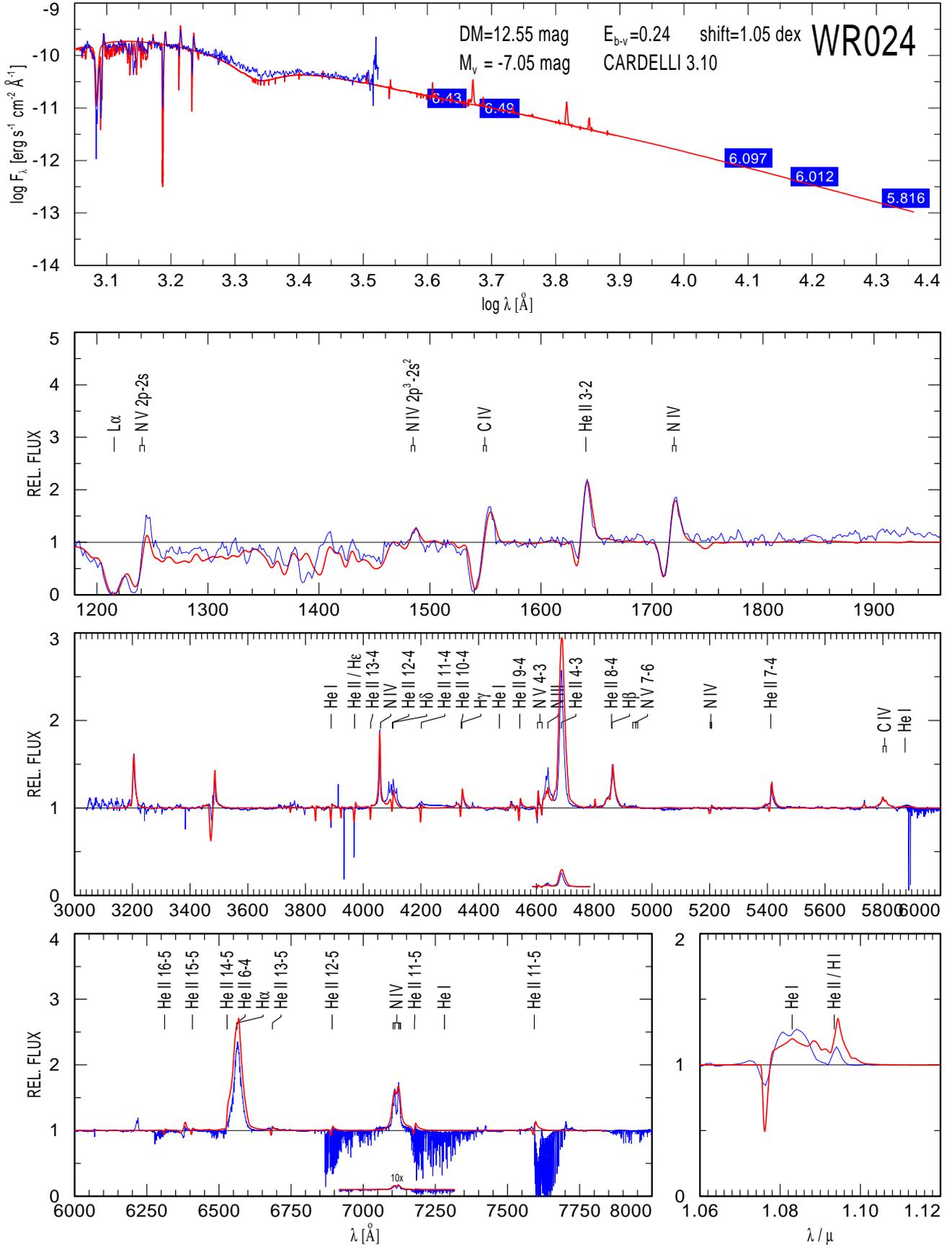
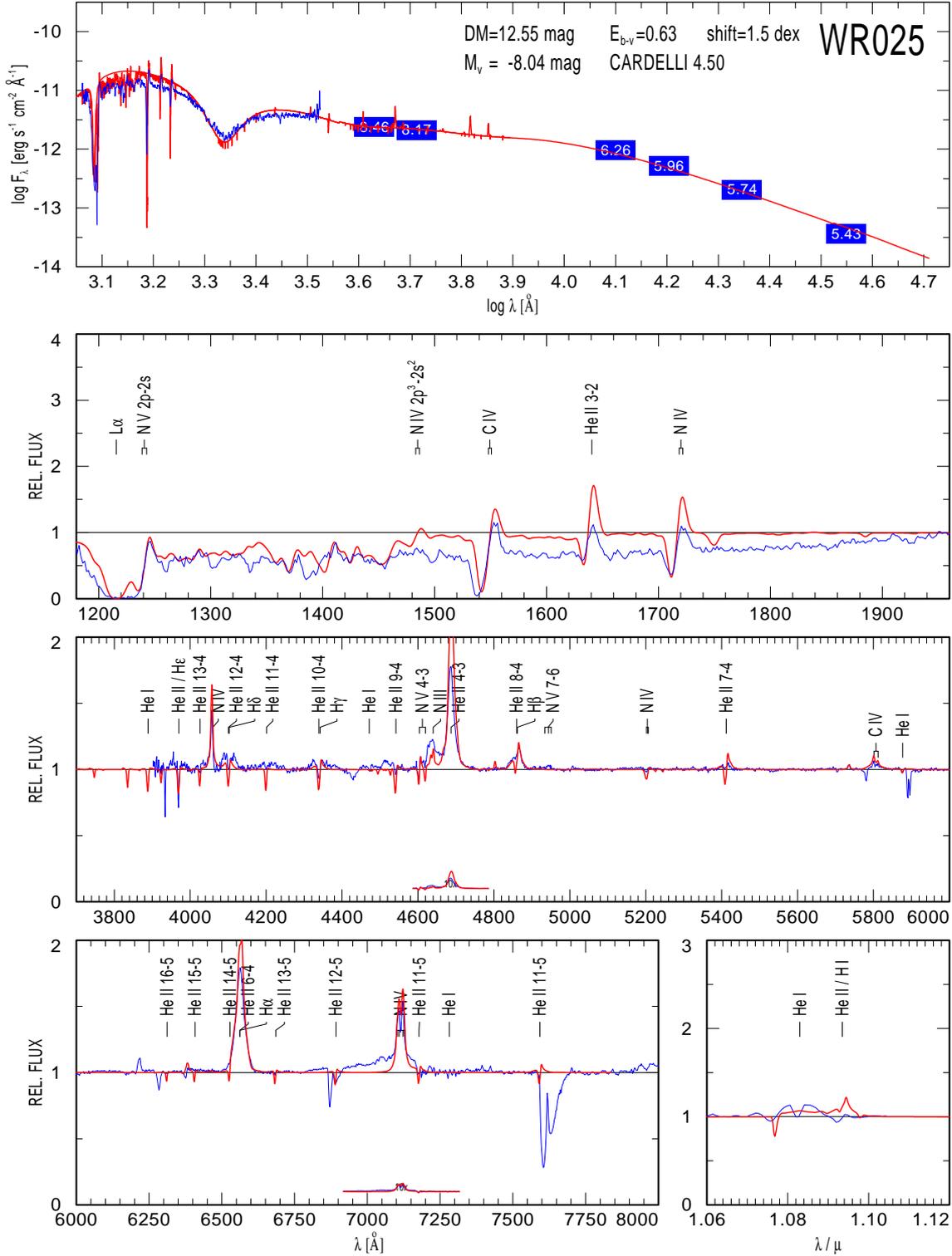


Fig. 23. Individual Model: 07-08,  $T_* = 50$  kK,  $\log(R_t/R_\odot) = 1.35$  with  $v_\infty = 2000$  km/s and  $X_H = 0.44$

MODEL START 12/01/04 14:39:17 50119/1.5D/1800 L=5.3 H44 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 07-06sp AFTER JOB NO.471



**Fig. 24.** Individual Model: 07-06,  $T_* = 50$  kK,  $\log(R_t/R_\odot) = 1.5$  with  $v_\infty = 1800$  km/s and  $X_H = 0.44$

MODEL START 10/07/03 17:30:20 50119/1.2D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 7-09 AFTER JOB NO.109

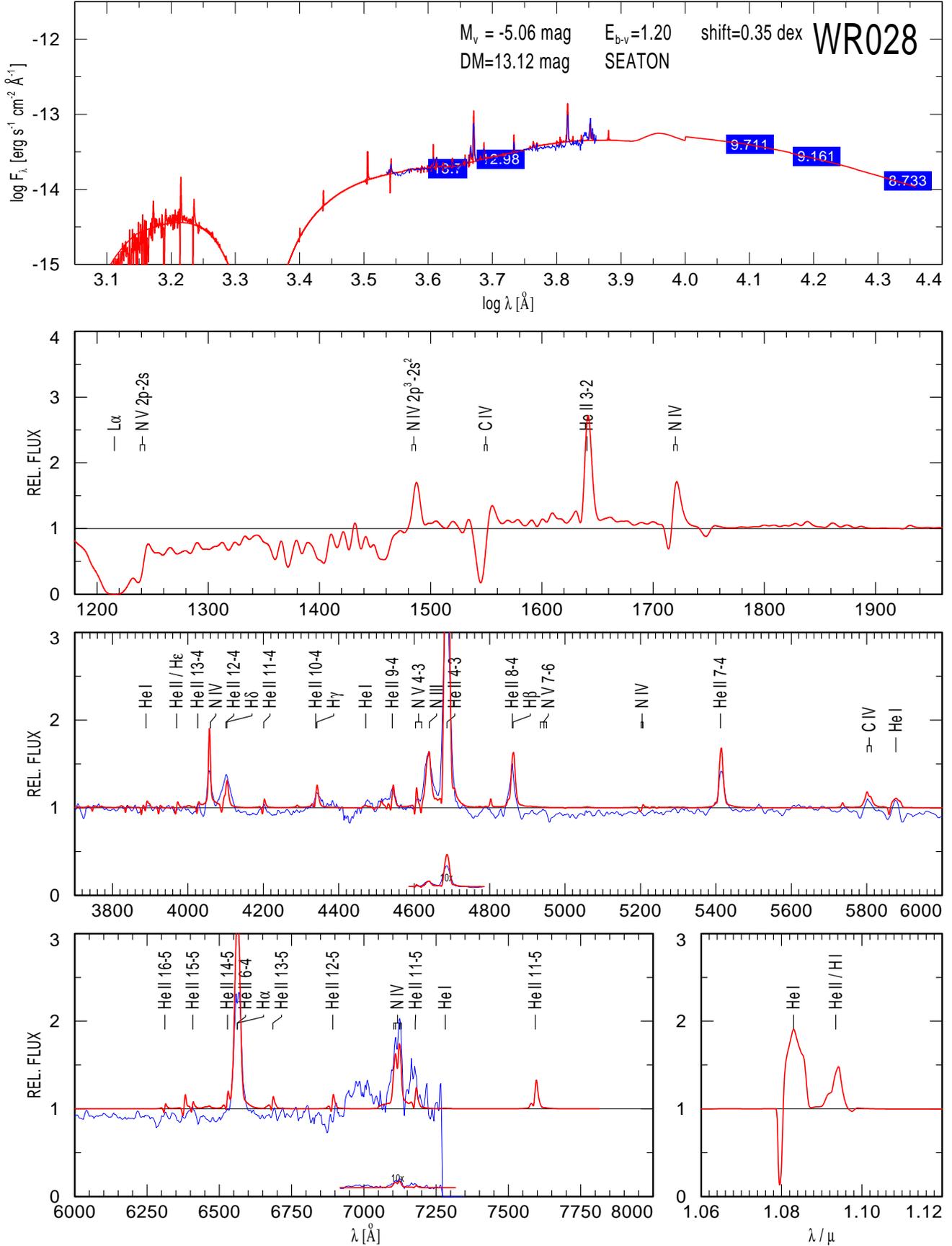


Fig. 25. Model: WNL 07-09,  $T_* = 50 \text{ kK}$ ,  $\log(R_t/R_\odot) = 1.2$

MODEL START 04/03/03 22:20:39 63096/0.8D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 9-13 AFTER JOB NO.284

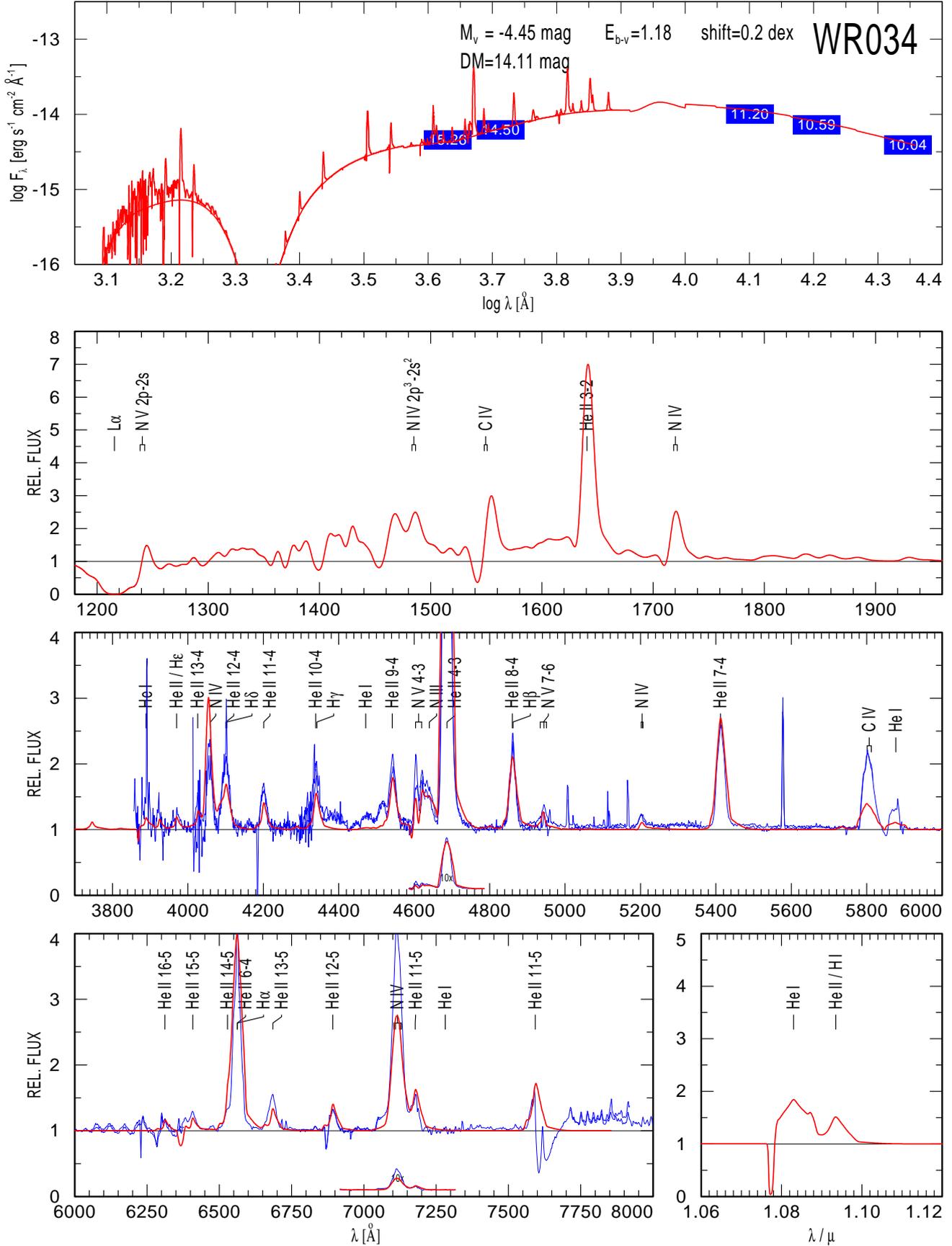


Fig. 26. Model: WNE 09-13,  $T_* = 63 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.8$

MODEL START 10/21/03 16:29:44 56234/0.90D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 08-12 AFTER JOB NO.587

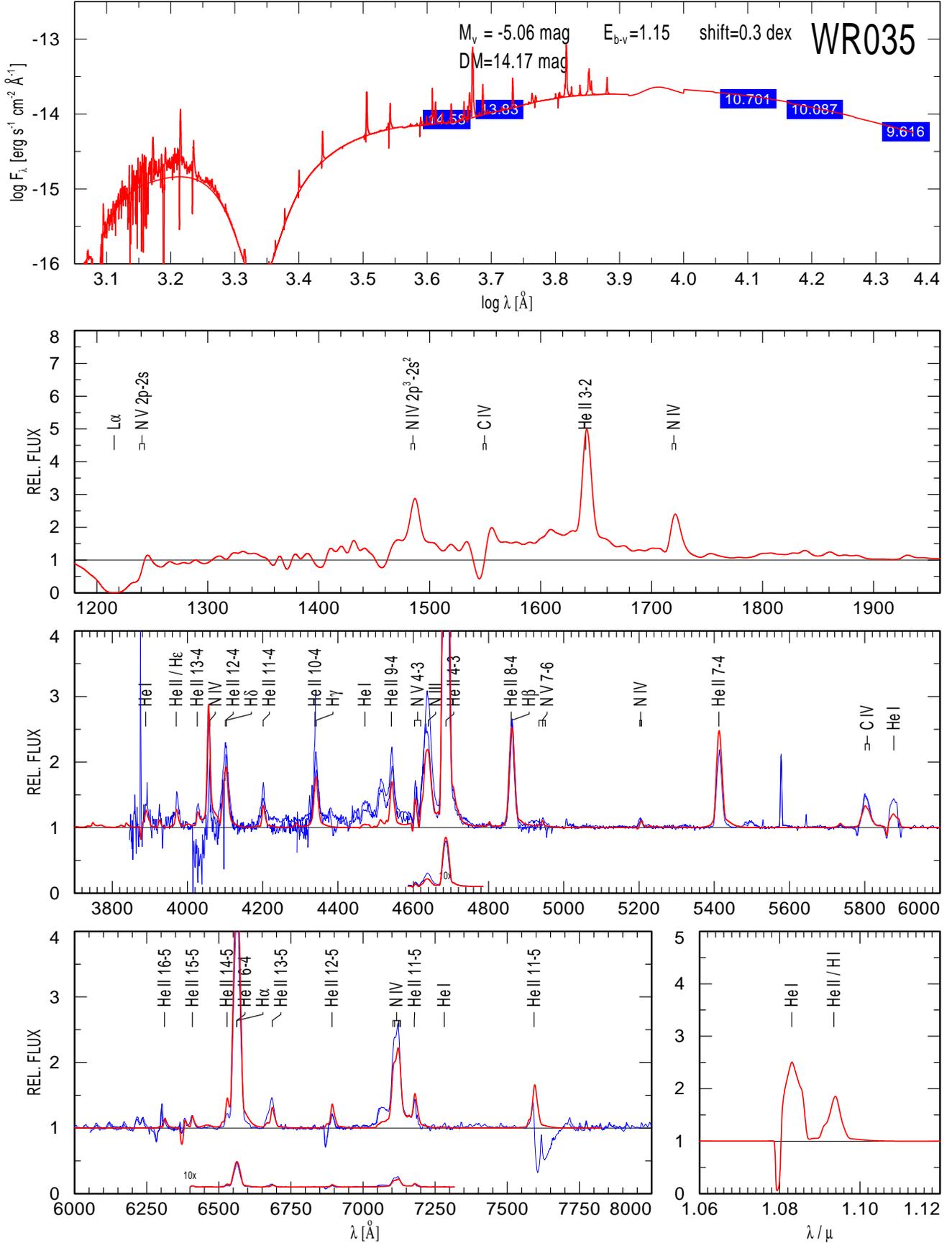


Fig. 27. Model: WNL 08-12,  $T_* = 56 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.9$

MODEL START 03/08/03 04:45:18 89125/0.2D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 12-19 AFTER JOB NO.831

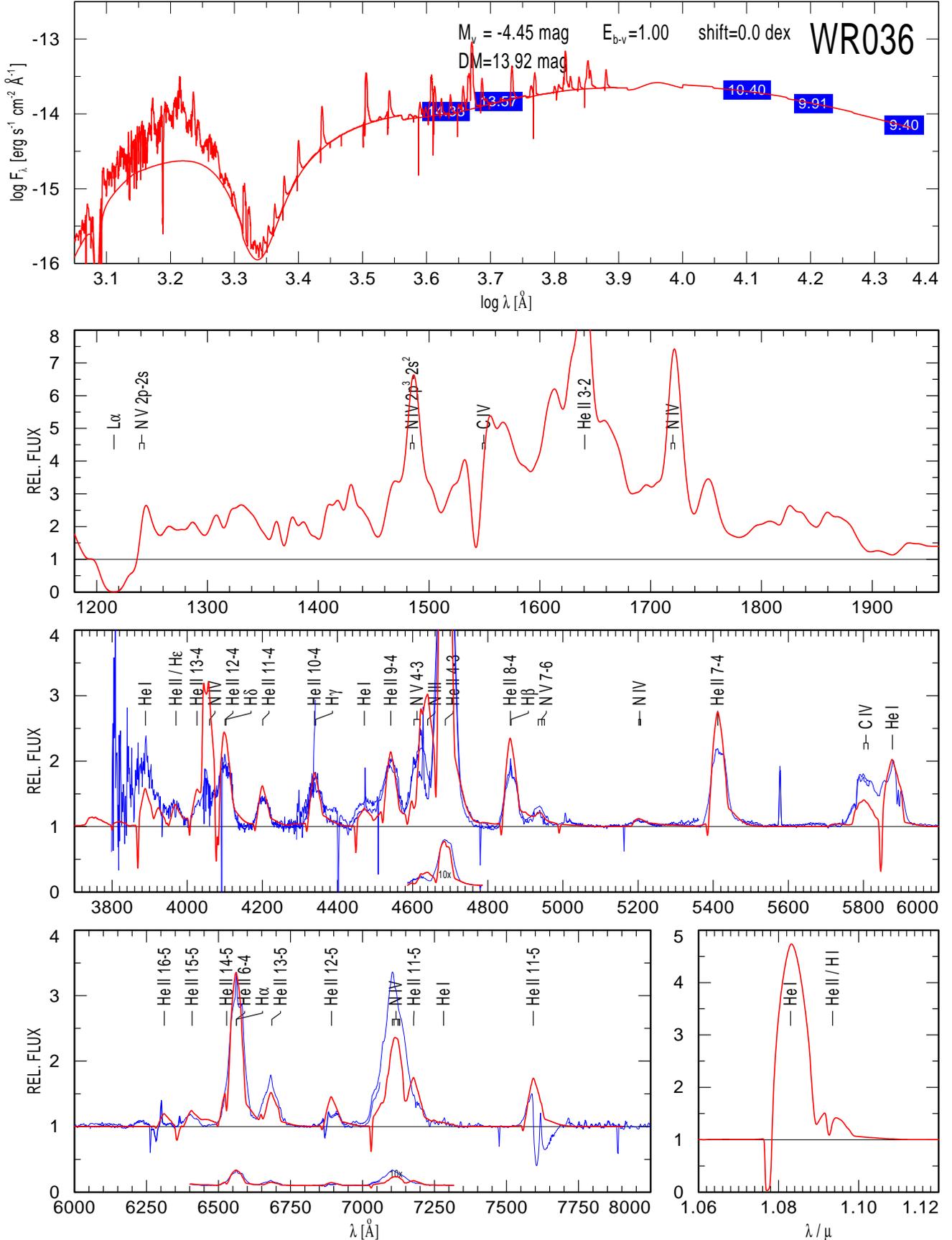


Fig. 28. Model: WNE 12-19,  $T_* = 89 \text{ kK}$ ,  $\log(R_1/R_\odot) = 0.2$

MODEL START 02/11/03 16:59:55 100000/0.4D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 13-17 AFTER JOB NO.387

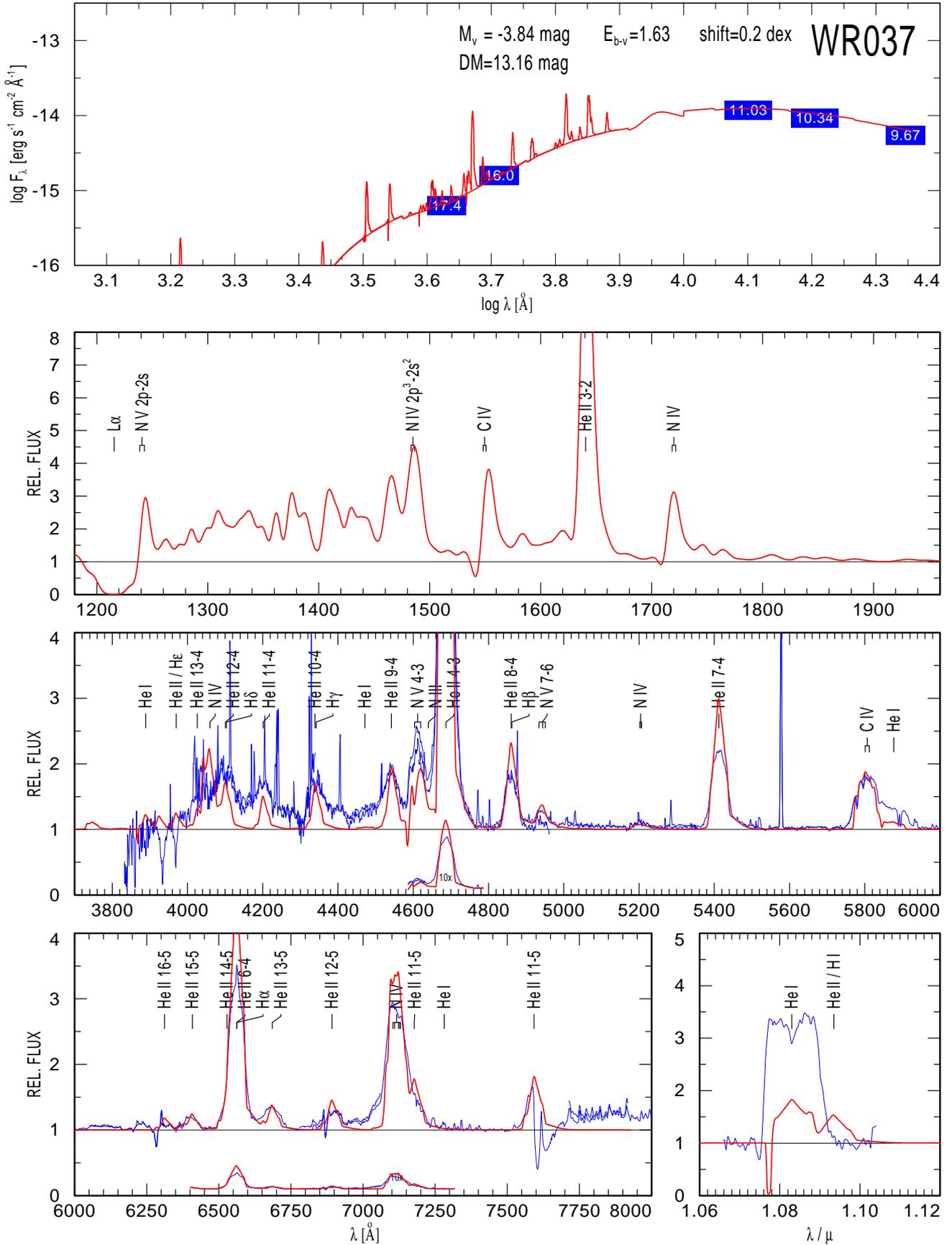
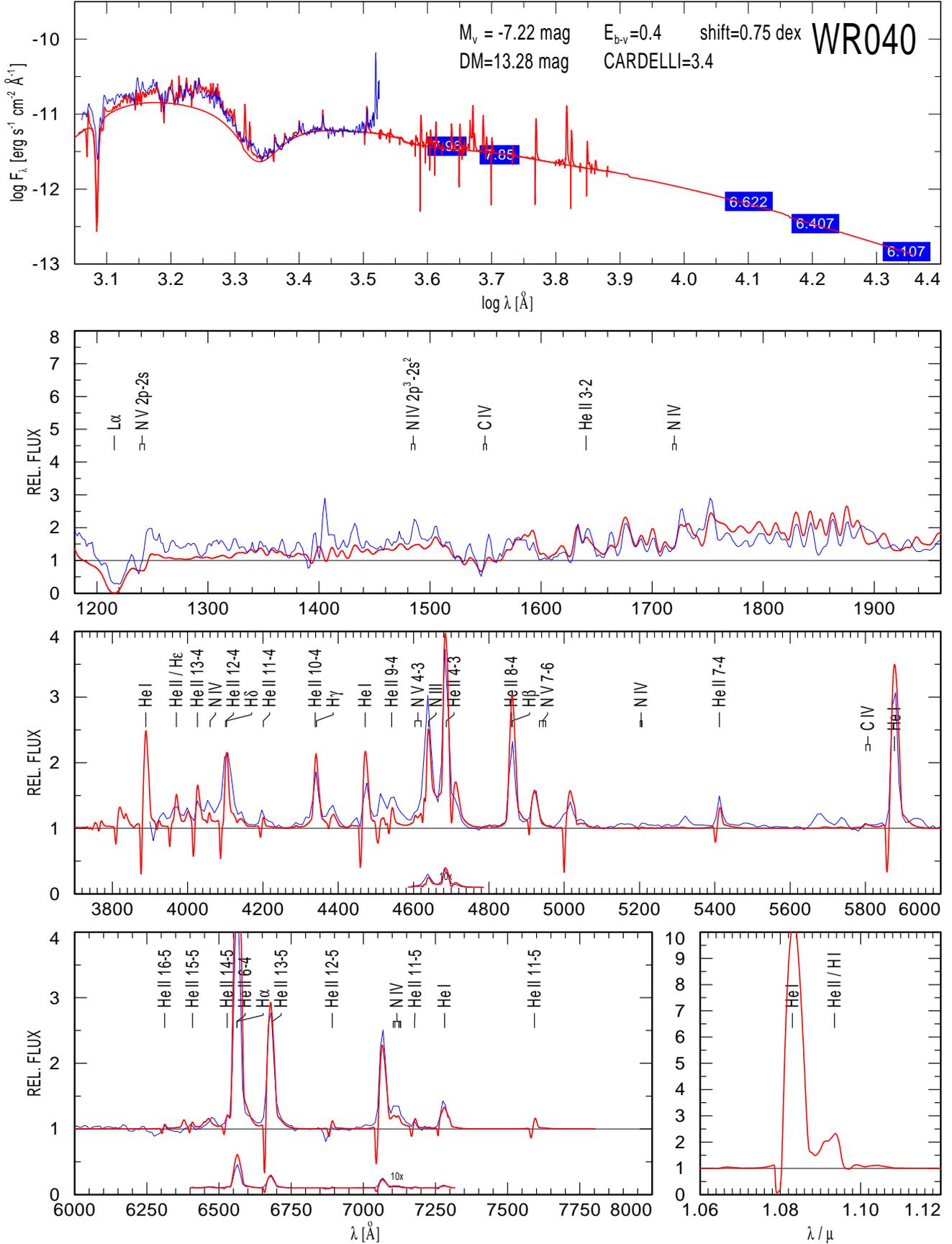


Fig. 29. Model: WNE 13-17,  $T_* = 100 \text{ kK}$ ,  $\log(R_1/R_\odot) = 0.4$

MODEL START 10/01/03 16:06:27 44668/0.70D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-14 AFTER JOB NO.514



**Fig. 30.** Model: WNL 06-14,  $T_* = 45$  kK,  $\log(R_t/R_\odot) = 0.7$

MODEL START 04/14/03 13:33:11 79433/0.8D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 11-13 AFTER JOB NO.764

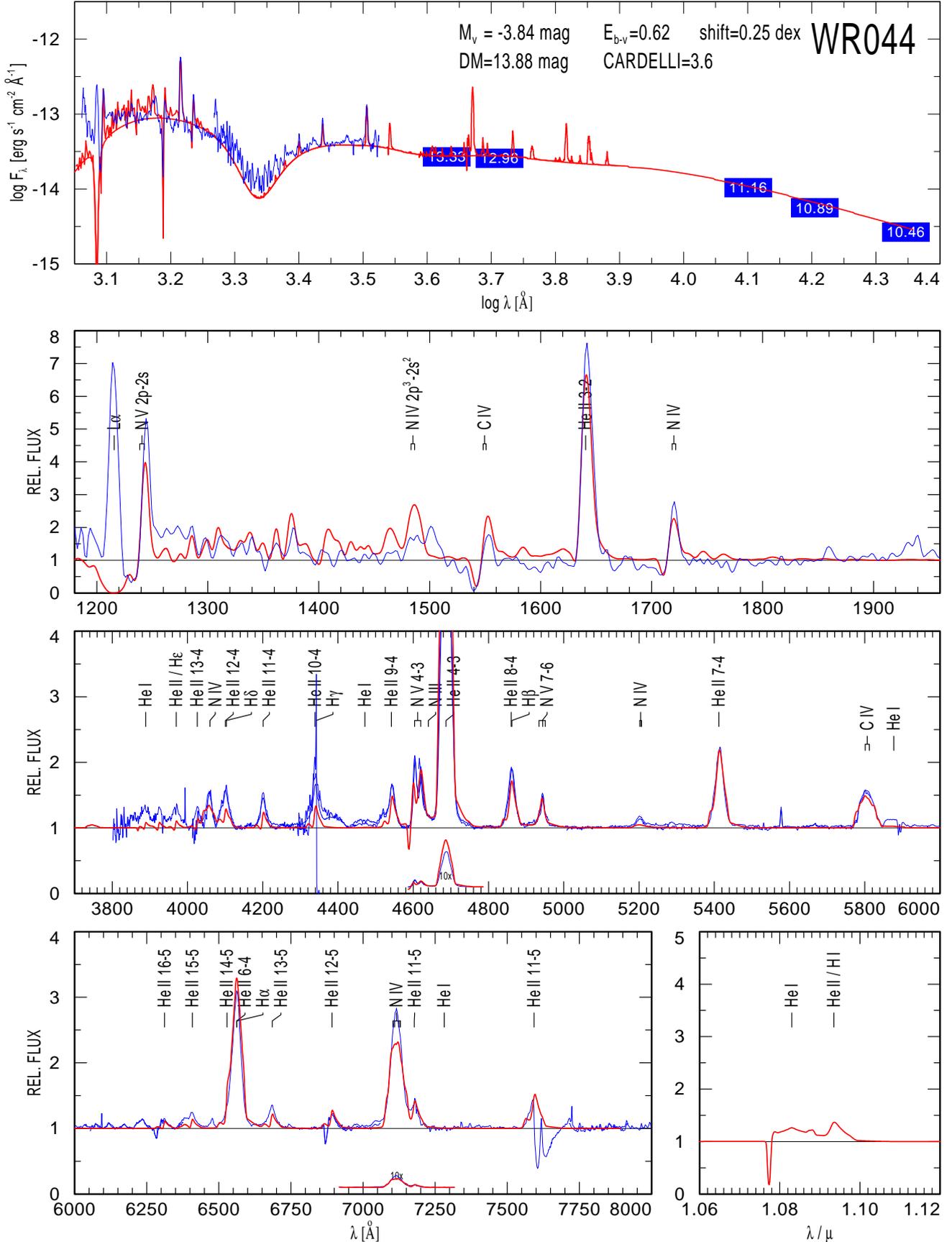
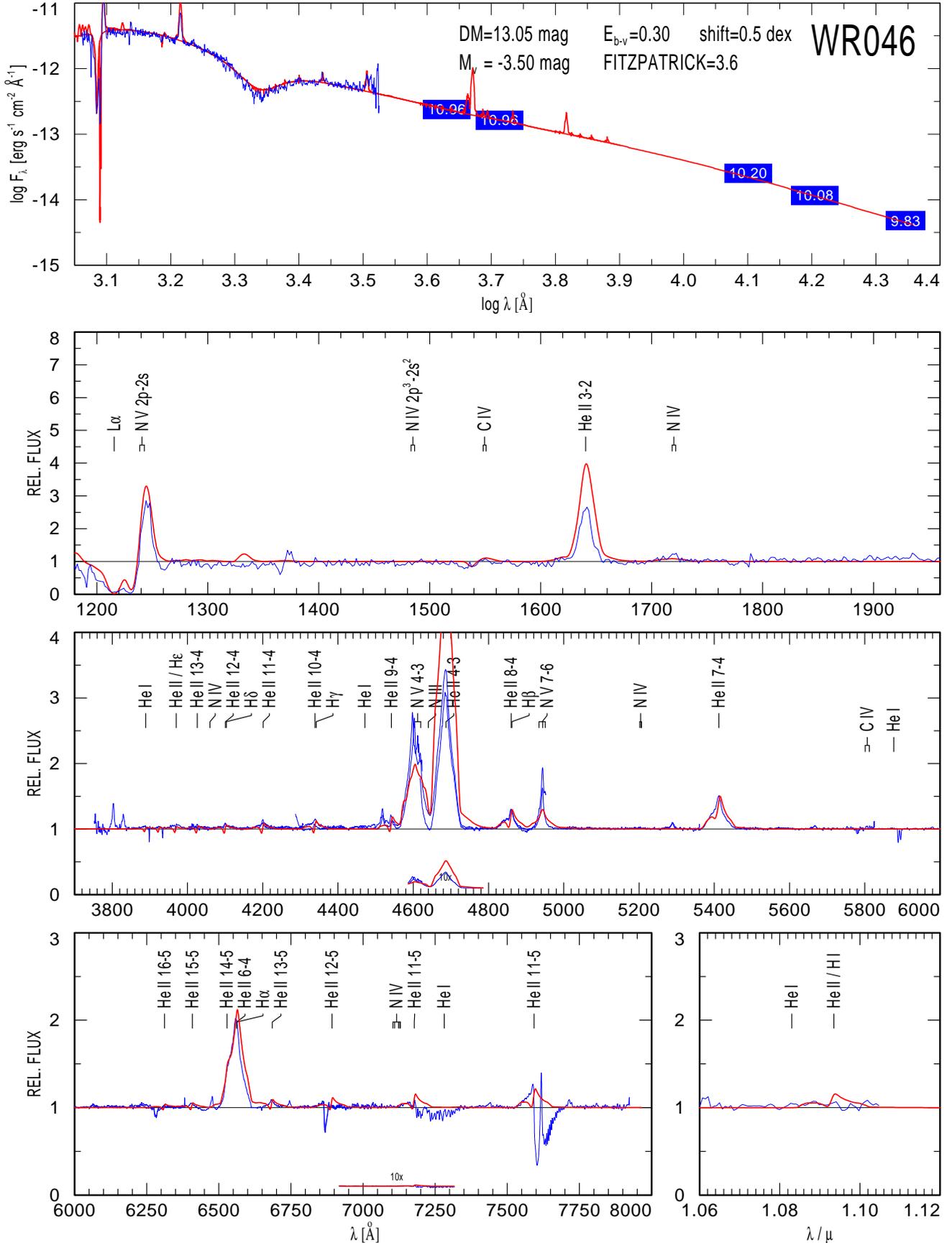


Fig. 31. Model: WNE 11-13,  $T_* = 79$  kK,  $\log(R_t/R_\odot) = 0.8$

MODEL START 10/13/05 18:09:59 112202/0.8D/2450 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODR (14-13) AFTER JOB NO.406



**Fig. 32.** Individual Model: WNE 14-13  $T_* = 112$  kK,  $\log(R_1/R_\odot) = 0.8$  but  $v_\infty = 2450$  km/s

MODEL START 10/21/03 16:22:34 56234/1.0D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 08-11 AFTER JOB NO.472

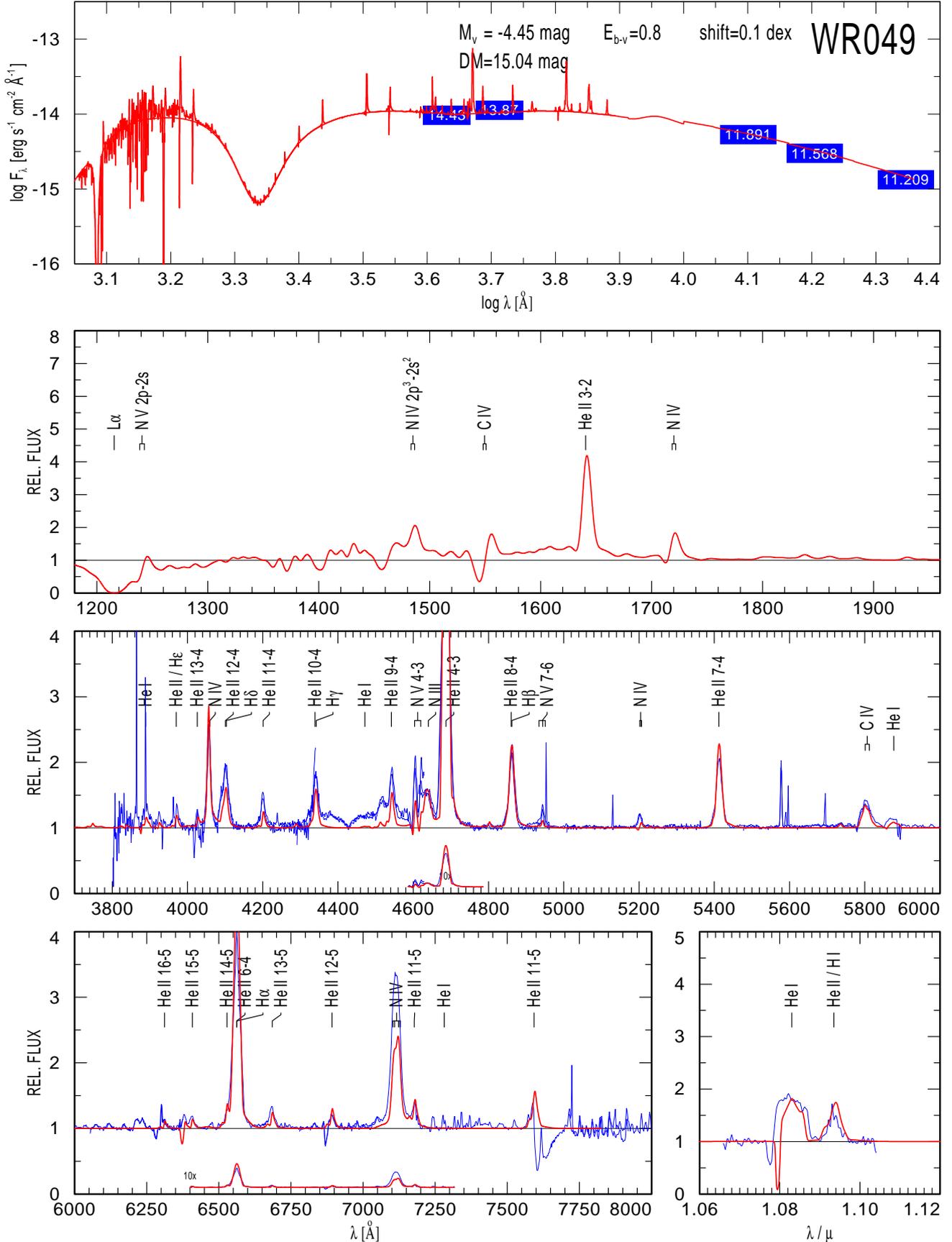
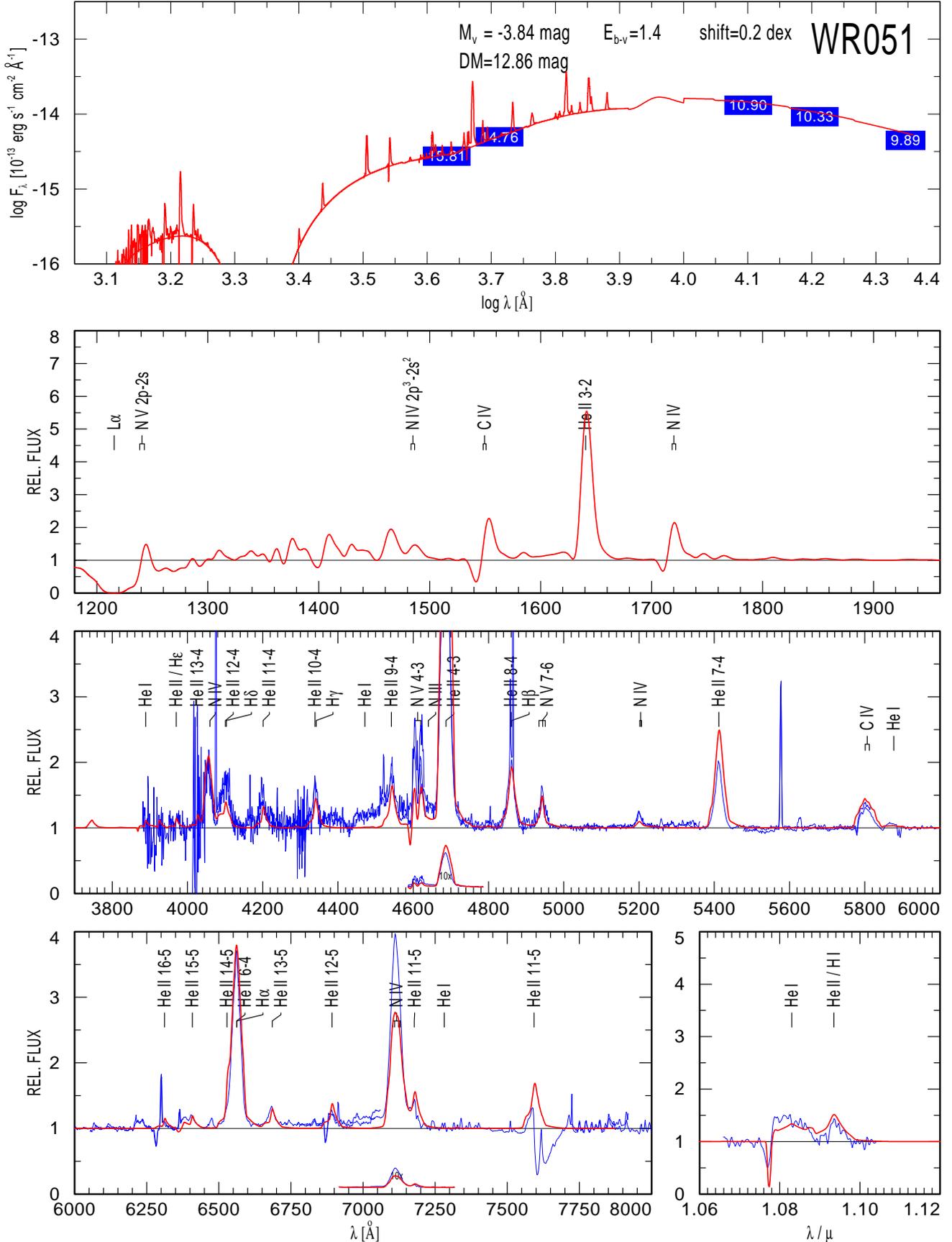


Fig. 33. Model: WNL 08-11,  $T_* = 56 \text{ kK}$ ,  $\log(R_1/R_\odot) = 1.0$

MODEL START 03/28/03 03:43:21 70795/0.9D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 10-12 AFTER JOB NO.609



**Fig. 34.** Model: WNE 10-12,  $T_* = 71$  kK,  $\log(R_t/R_\odot) = 0.9$

MODEL START 04/04/03 12:29:14 63096/0.9D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 09-12 AFTER JOB NO.946

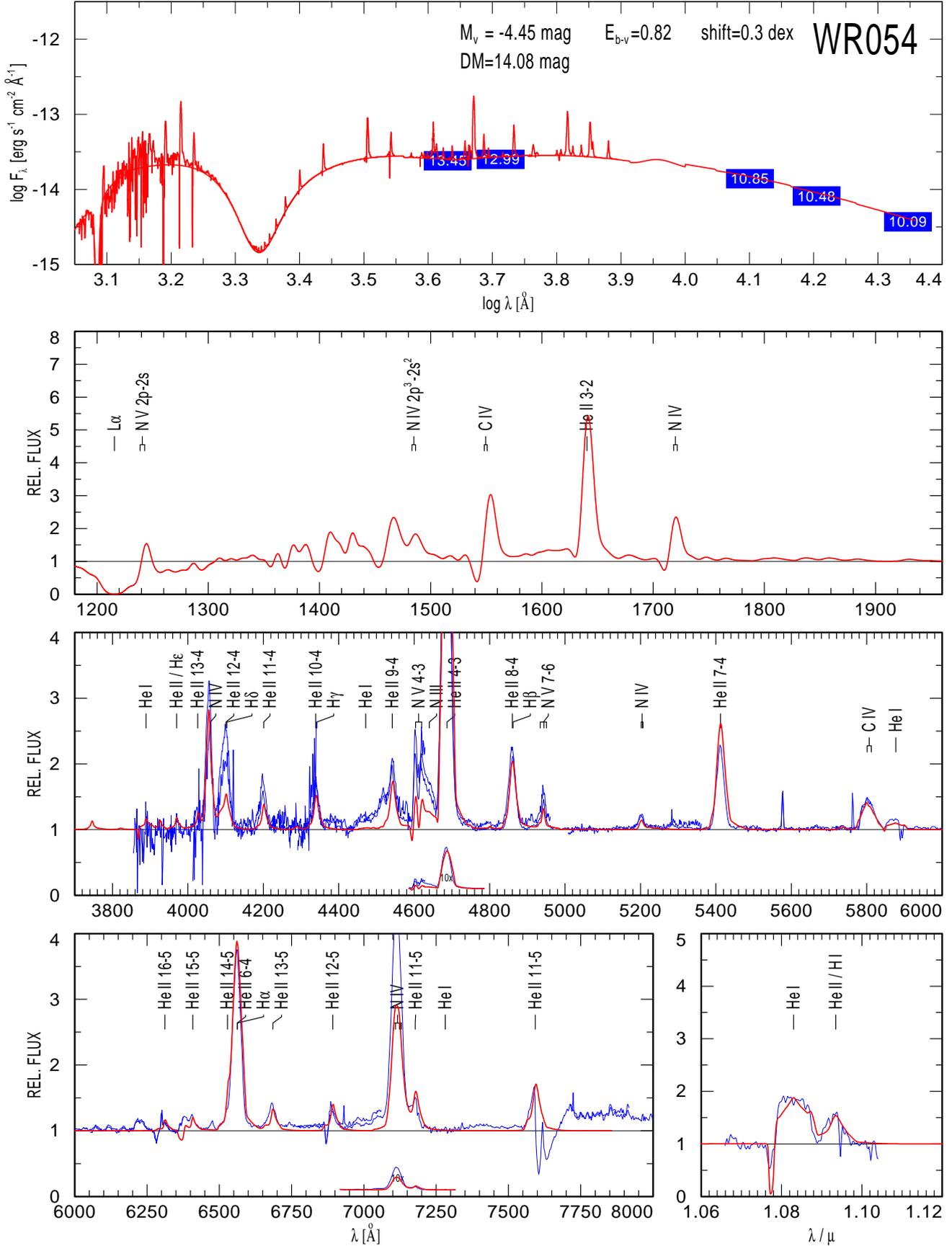


Fig. 35. Model: WNE 09-12,  $T_* = 63 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.9$

MODEL START 04/21/03 23:53:29 56234/0.8D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 08-13 AFTER JOB NO.825

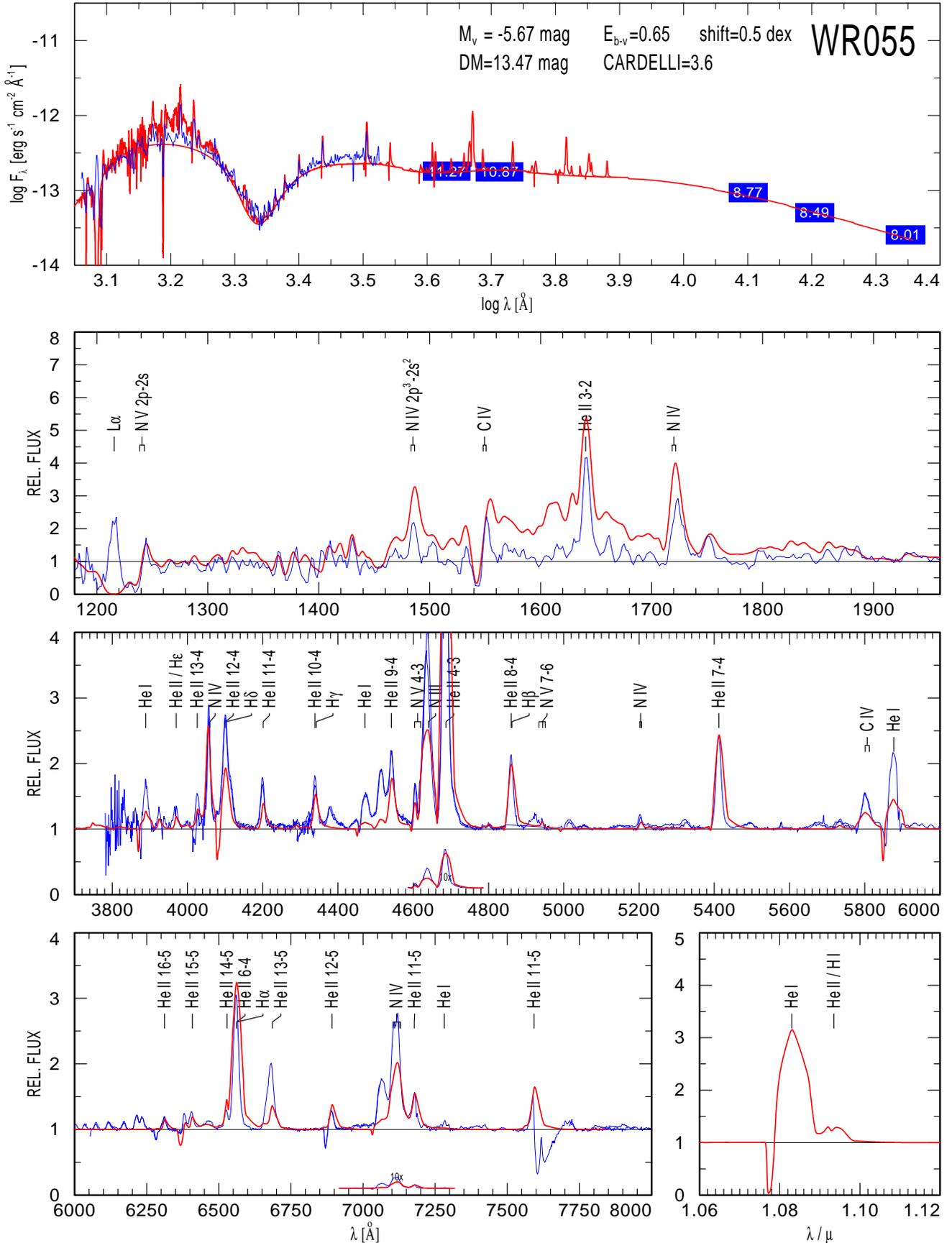


Fig. 36. Model: WNE 08-13,  $T_* = 56$  kK,  $\log(R_t/R_\odot) = 0.8$

MODEL START 03/31/03 23:18:48 63096/0.7D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 9-14 AFTER JOB NO.425

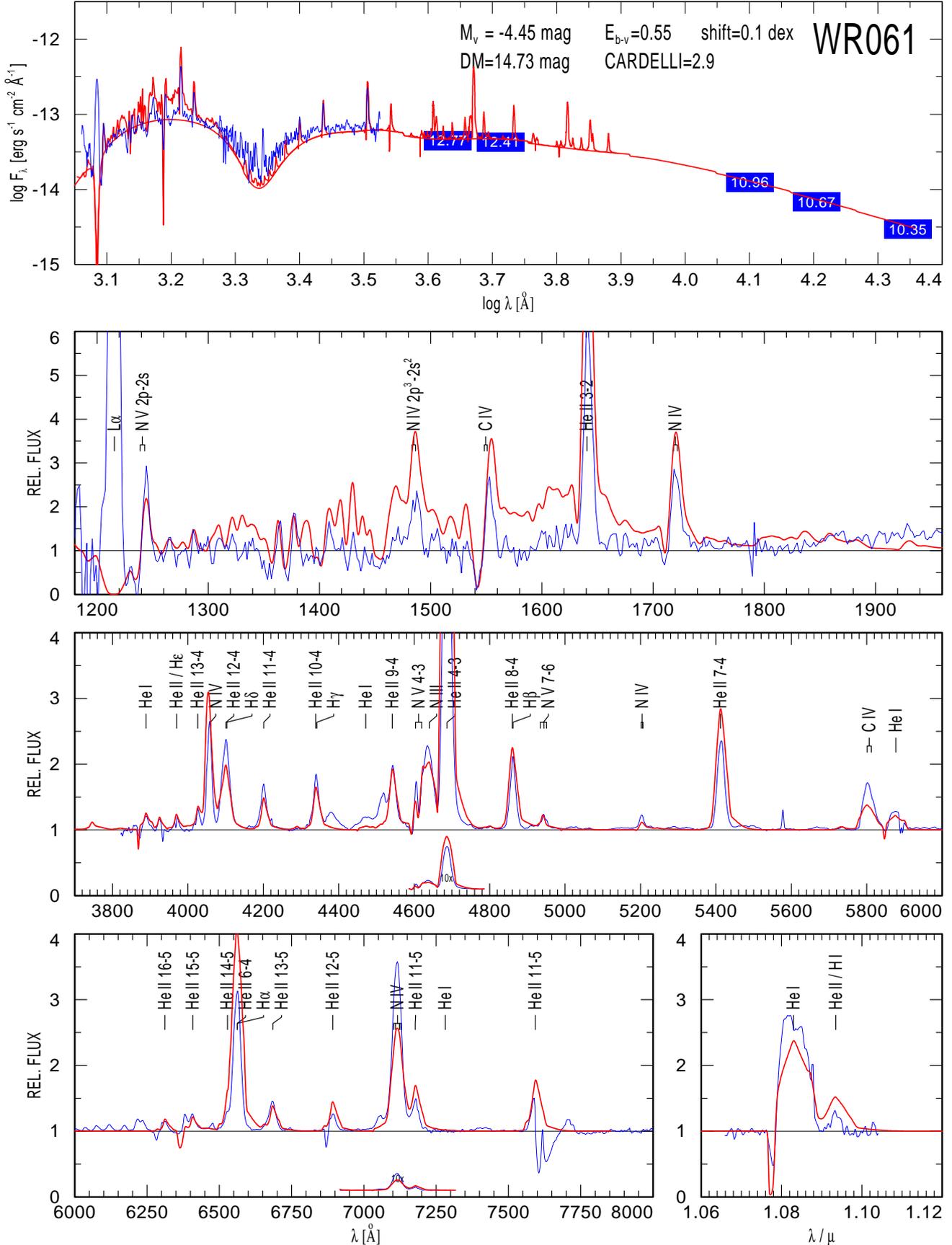


Fig. 37. Model: WNE 09-14,  $T_* = 63 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.7$

MODEL START 03/19/03 09:03:38 70795/0.4D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 10-17 AFTER JOB NO.413

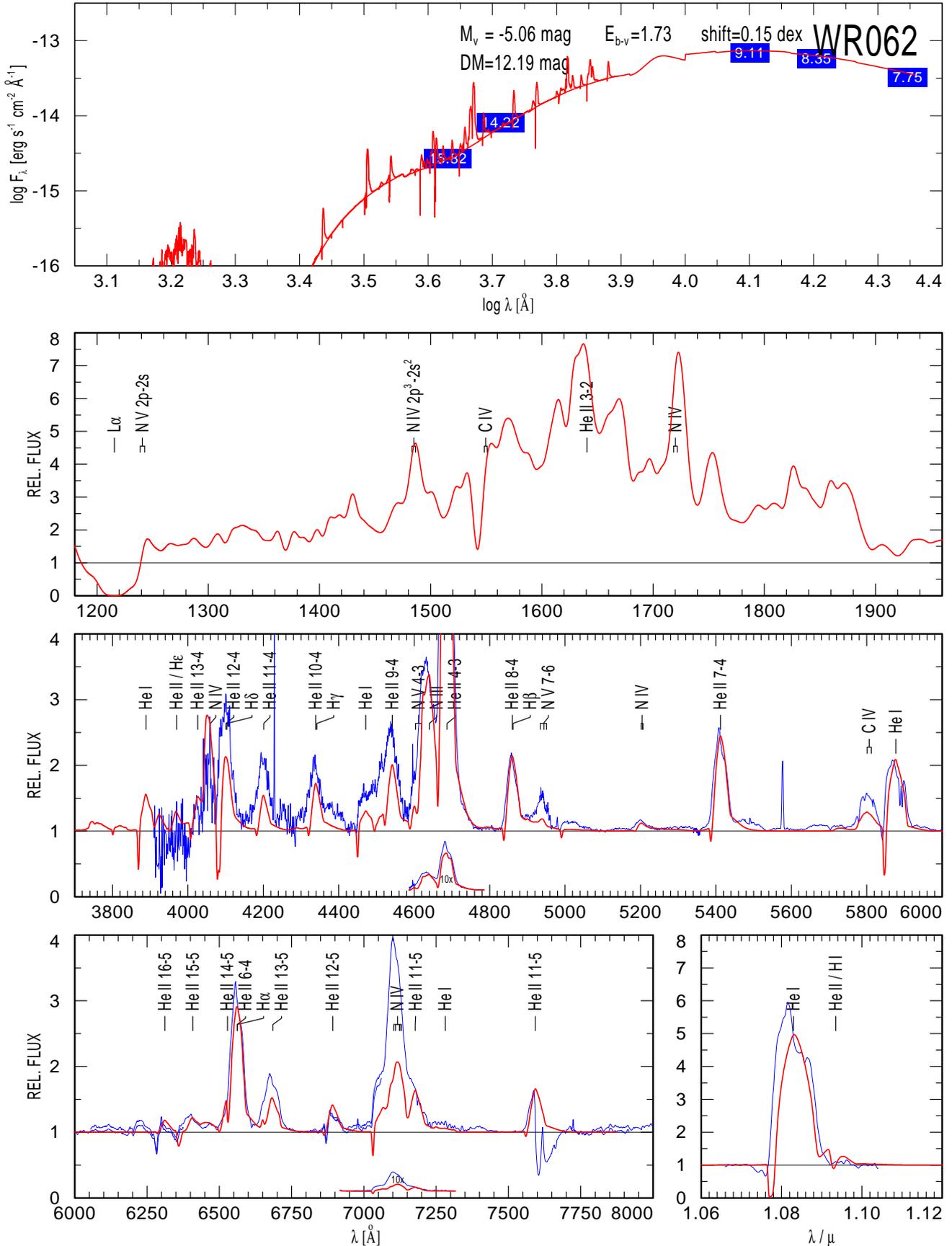


Fig. 38. Model: WNE 10-17,  $T_* = 71 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.4$

MODEL START 05/29/03 23:32:49 44668/1.1D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 6-10 AFTER JOB NO.264

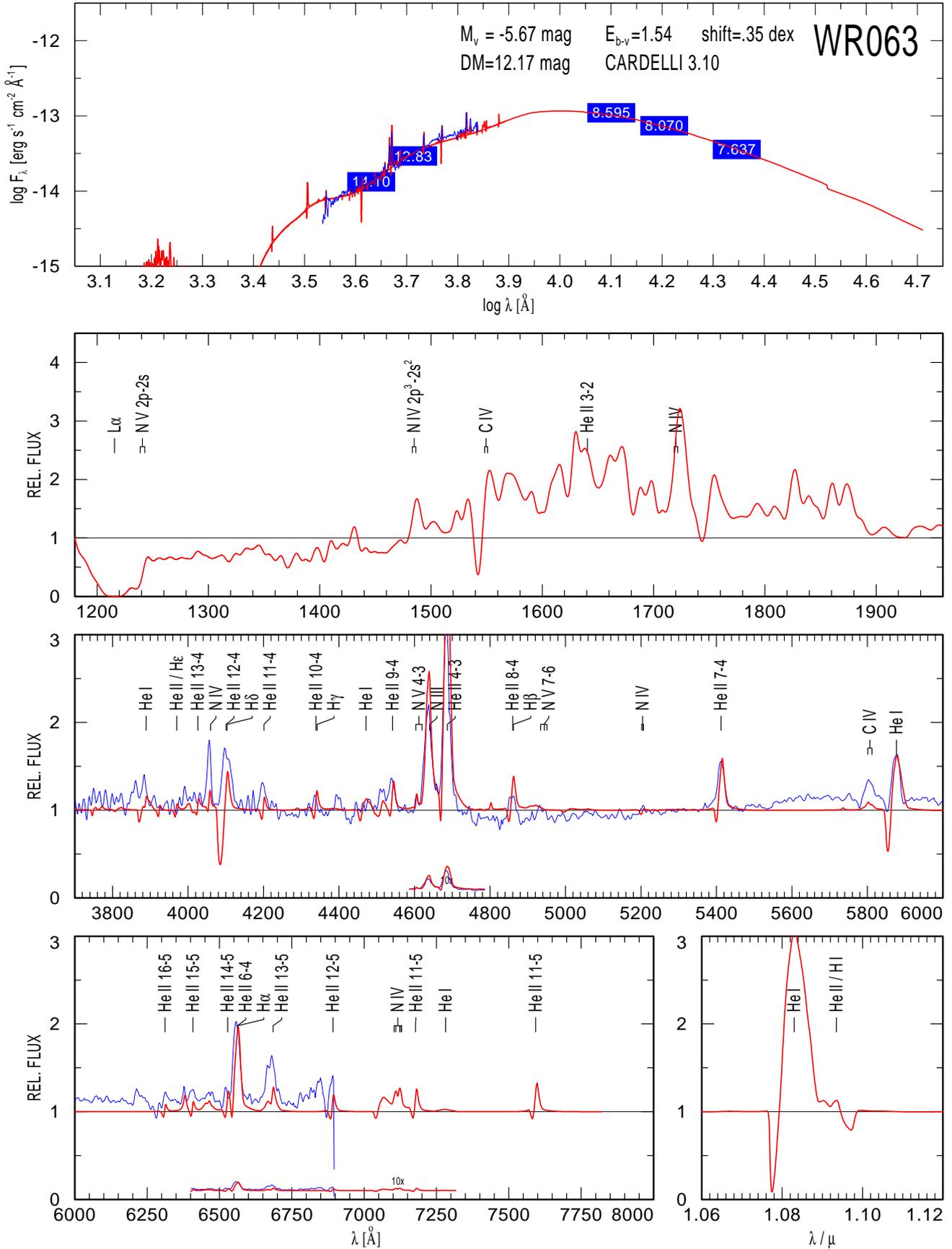


Fig. 39. Model: WNE 06-10,  $T_* = 45 \text{ kK}$ ,  $\log(R_t/R_\odot) = 1.1$

MODEL START 11/25/03 12:51:17 44668/0.9D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-12 AFTER JOB NO.667

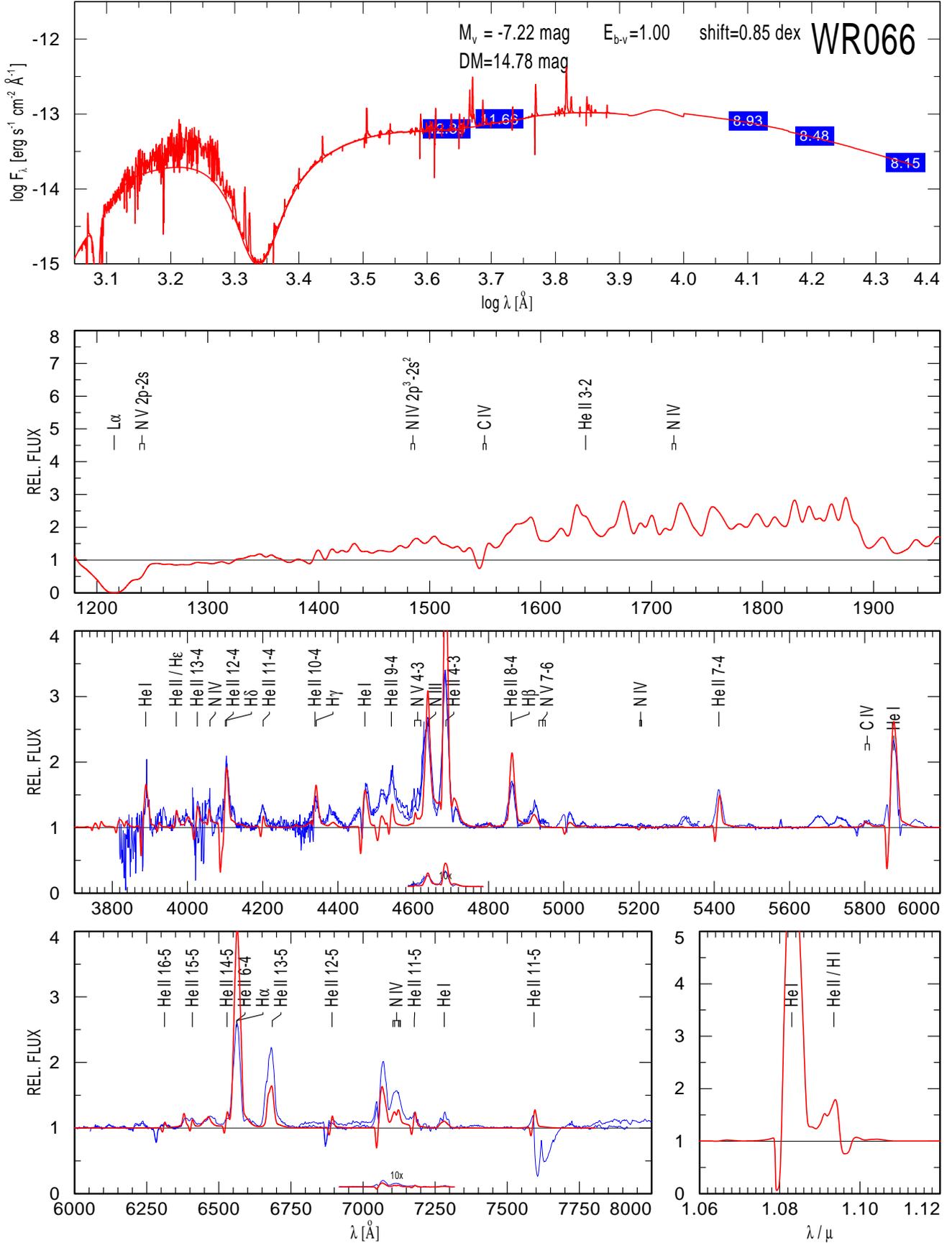
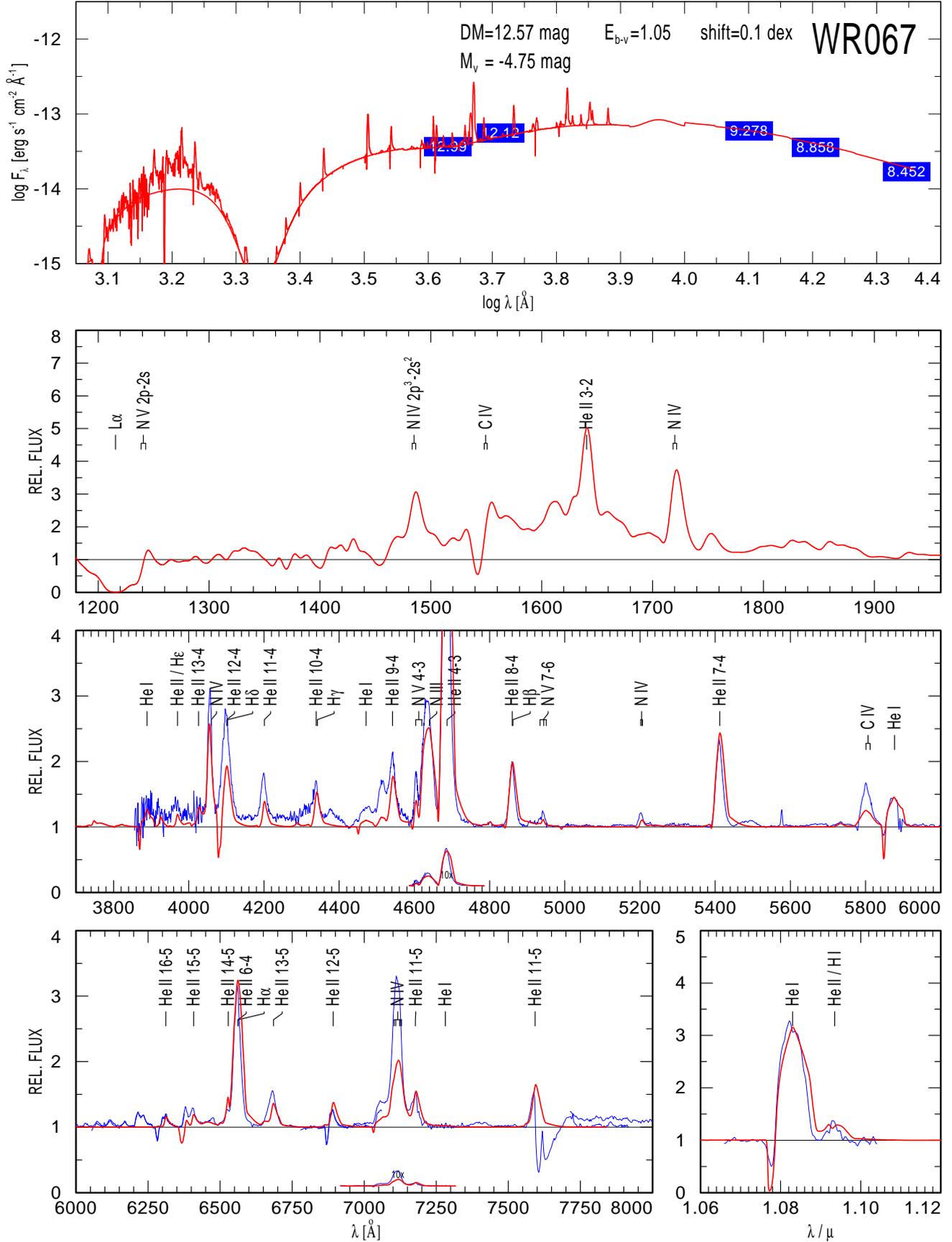


Fig. 40. Model: WNL 06-12,  $T_* = 45 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.9$

MODEL START 04/21/03 23:53:29 56234/0.8D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 08-13 AFTER JOB NO.825



**Fig. 41.** Model: WNE 08-13,  $T_* = 56$  kK,  $\log(R_t/R_\odot) = 0.8$

MODEL START 04/20/03 00:18:54 56234/0.90D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 08-12 AFTER JOB NO.172

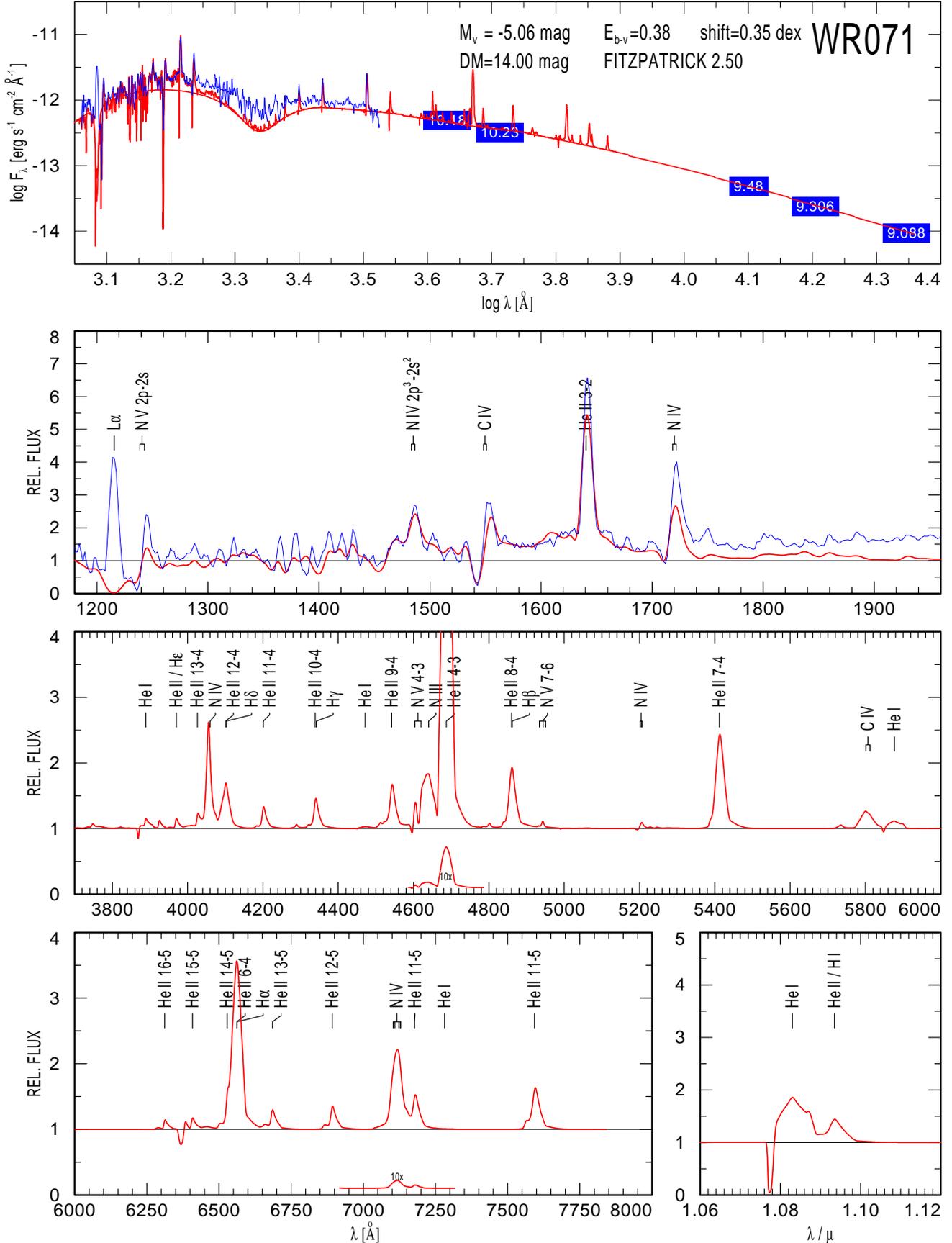


Fig. 42. Model: WNE 08-12,  $T_* = 56 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.9$

MODEL START 04/06/03 19:16:25 56234/0.7D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 8-14 AFTER JOB NO.910

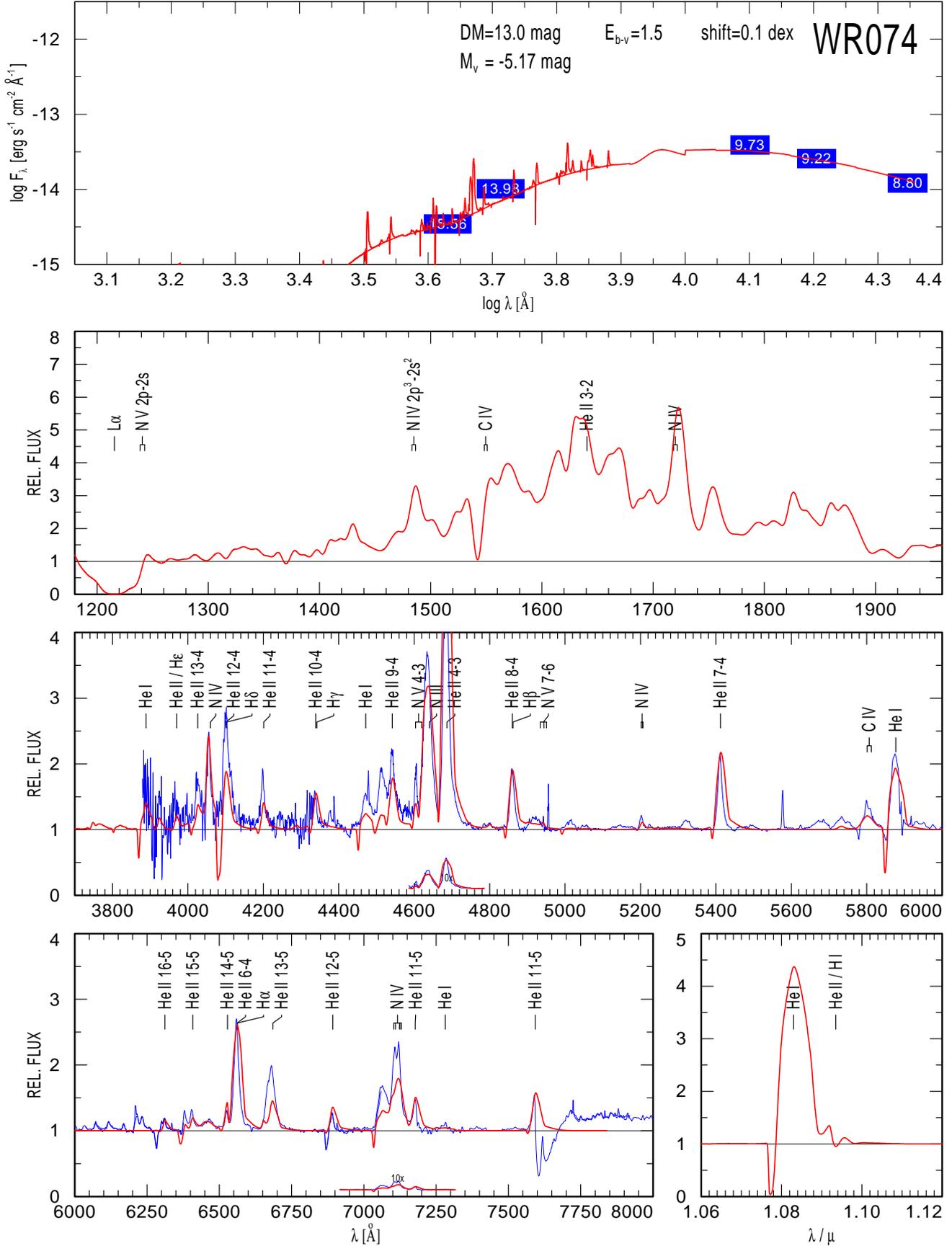


Fig. 43. Model: WNE 08-14,  $T_* = 56$  kK,  $\log(R_t/R_\odot) = 0.7$

MODEL START 03/31/03 10:50:36 63096/0.6D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 9-15 AFTER JOB NO.825

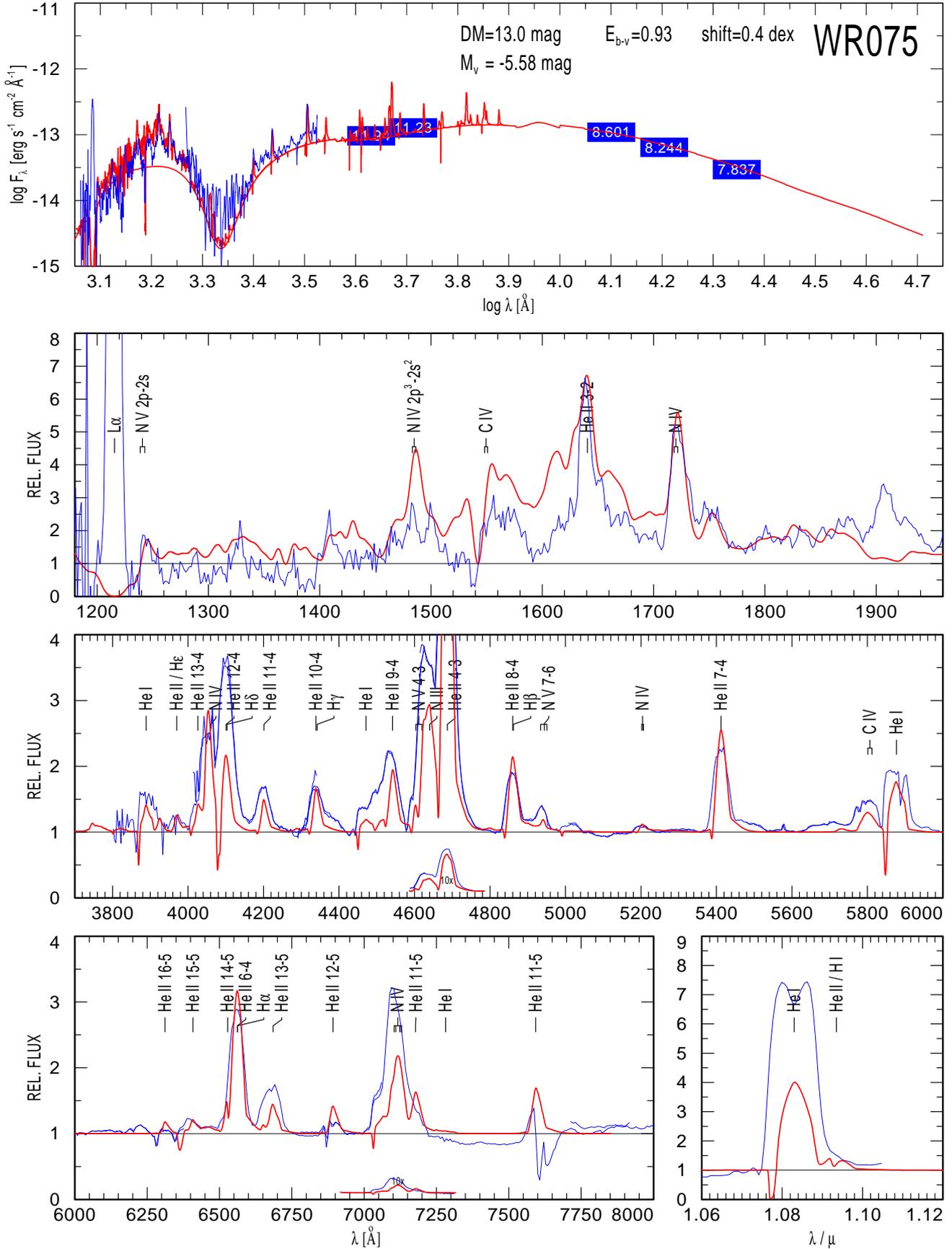


Fig. 44. Model: WNE 09-15,  $T_* = 63$  kK,  $\log(R_t/R_\odot) = 0.6$

MODEL START 10/13/03 09:51:52 50119/1.0D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 07-11 AFTER JOB NO.610

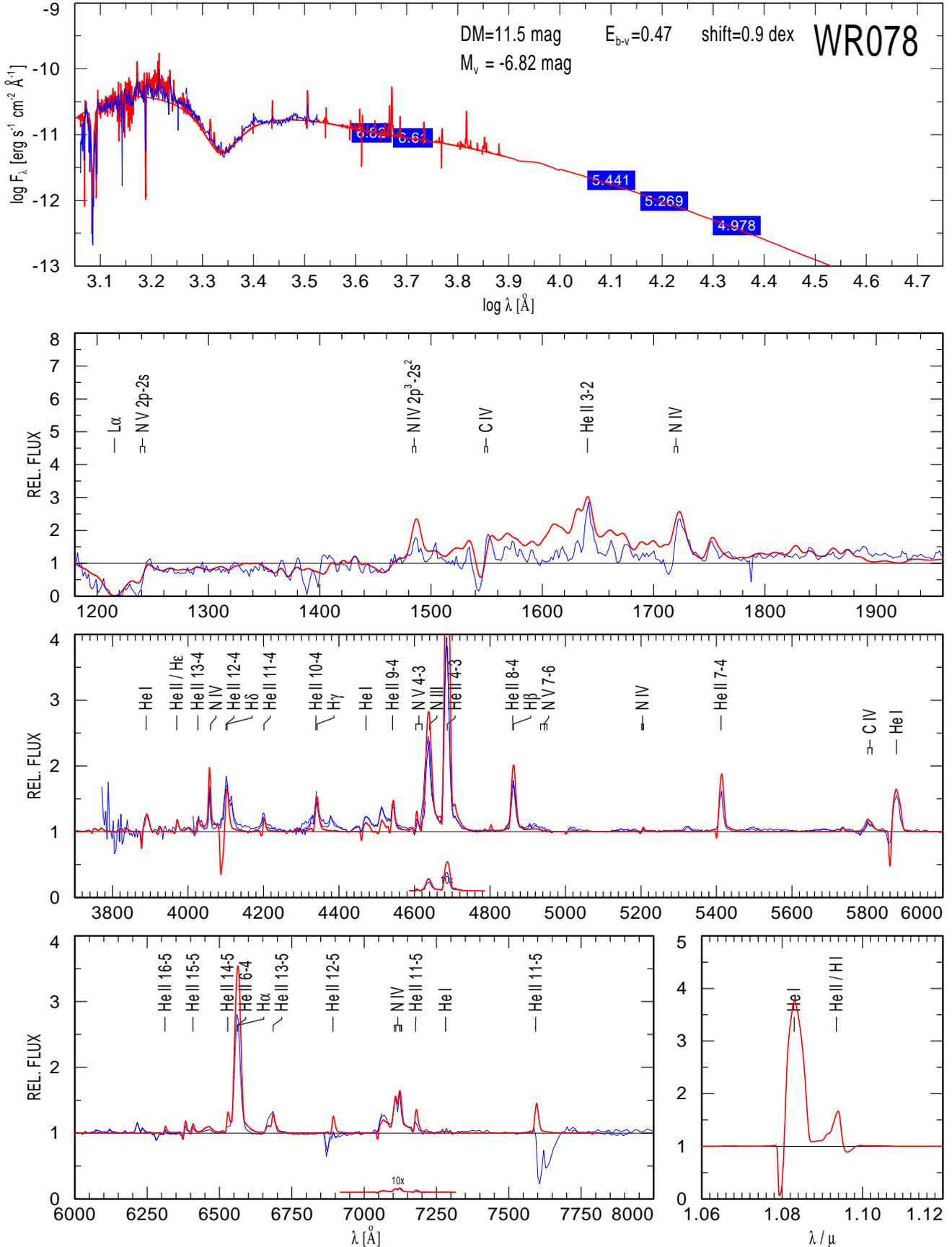


Fig. 45. Model: WNL 07-11,  $T_* = 50$  kK,  $\log(R_t/R_\odot) = 1.0$

MODEL START 10/21/03 16:51:37 56234/0.7D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 8-14 AFTER JOB NO.649

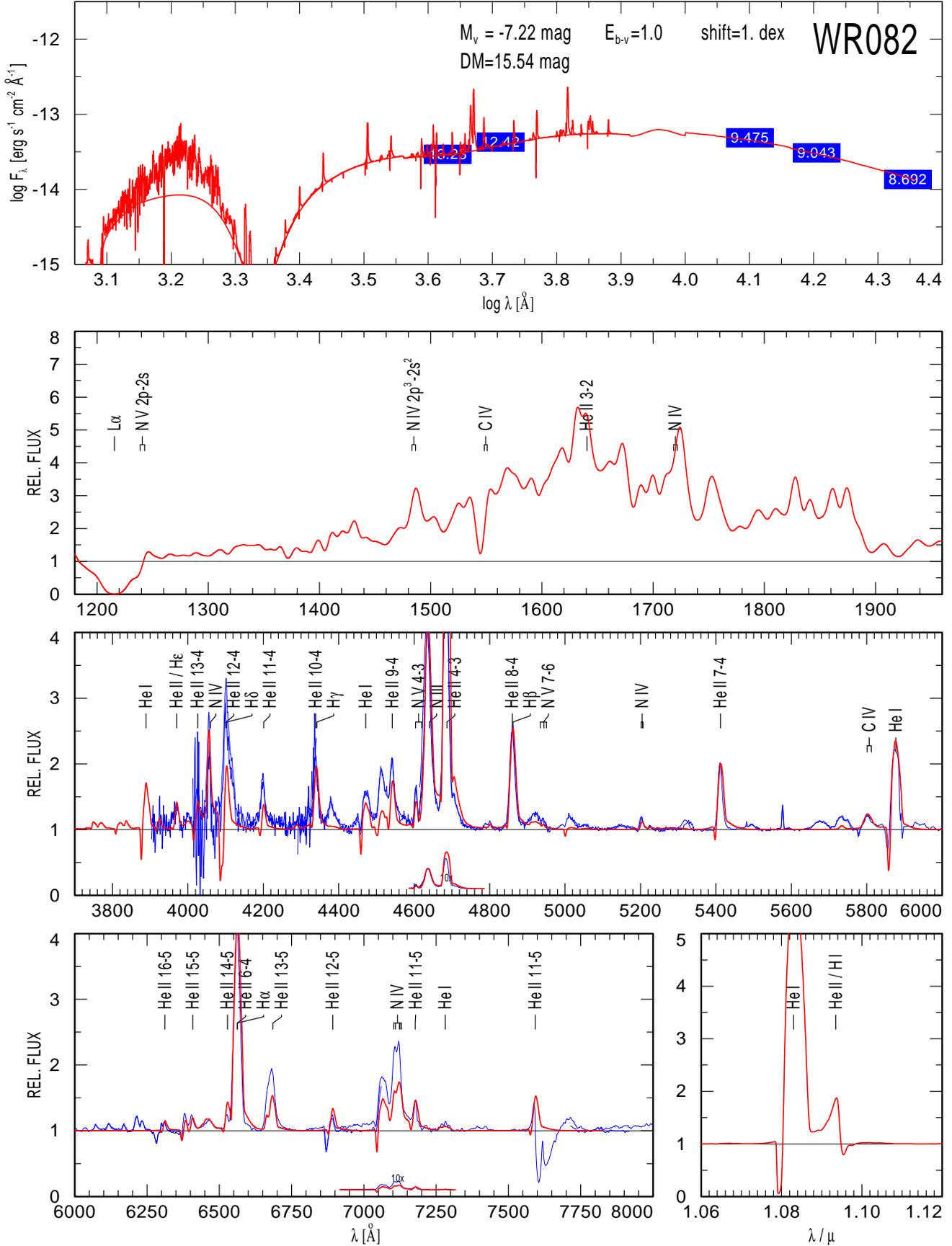


Fig. 46. Model: WNL 08-14,  $T_* = 56 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.7$

MODEL START 05/05/03 21:33:49 50119/0.90D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 07-12 AFTER JOB NO.802

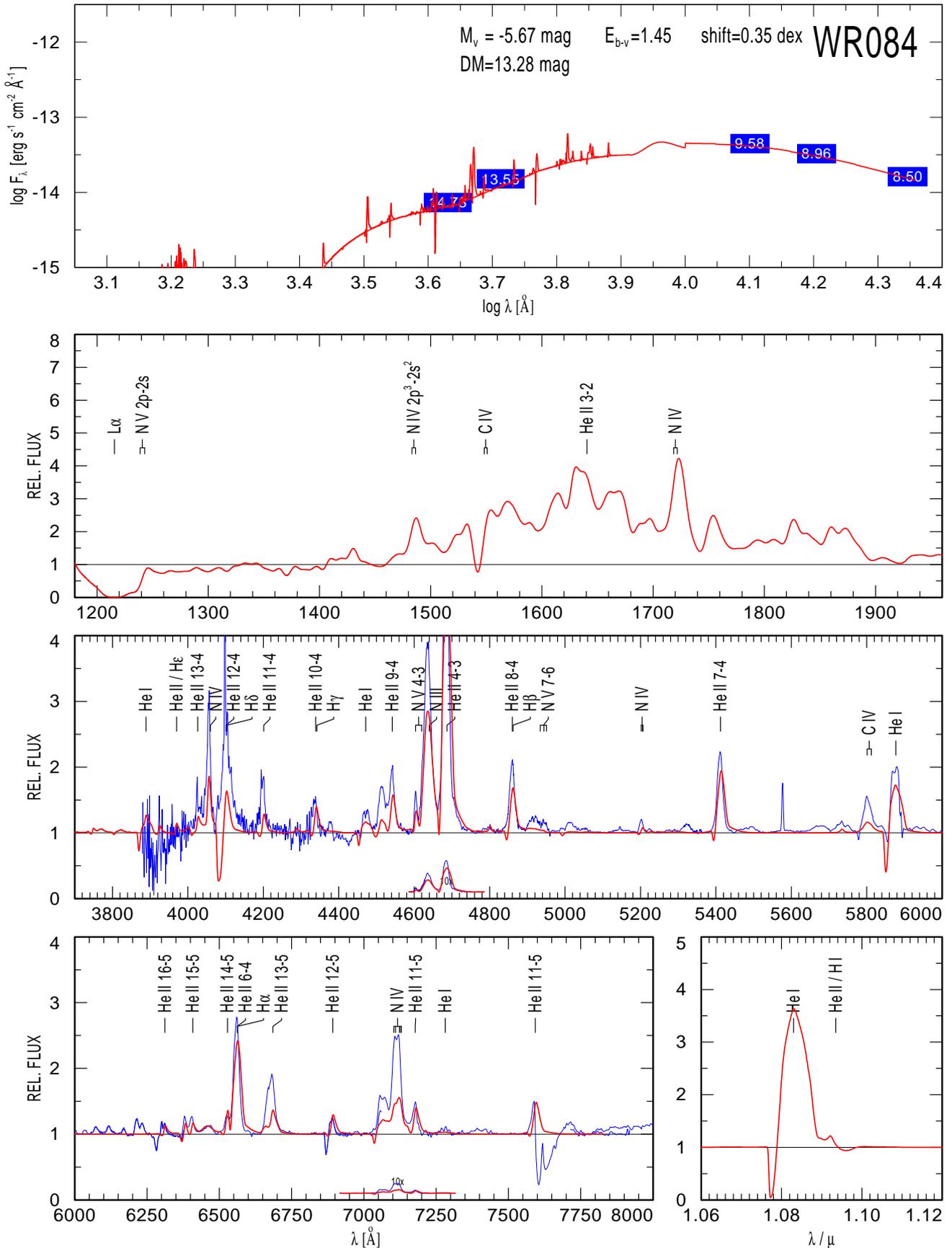


Fig. 47. Model: WNE 07-12,  $T_* = 50 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.9$



MODEL START 11/21/03 16:50:35 44668/1.30D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-08 AFTER JOB NO.156

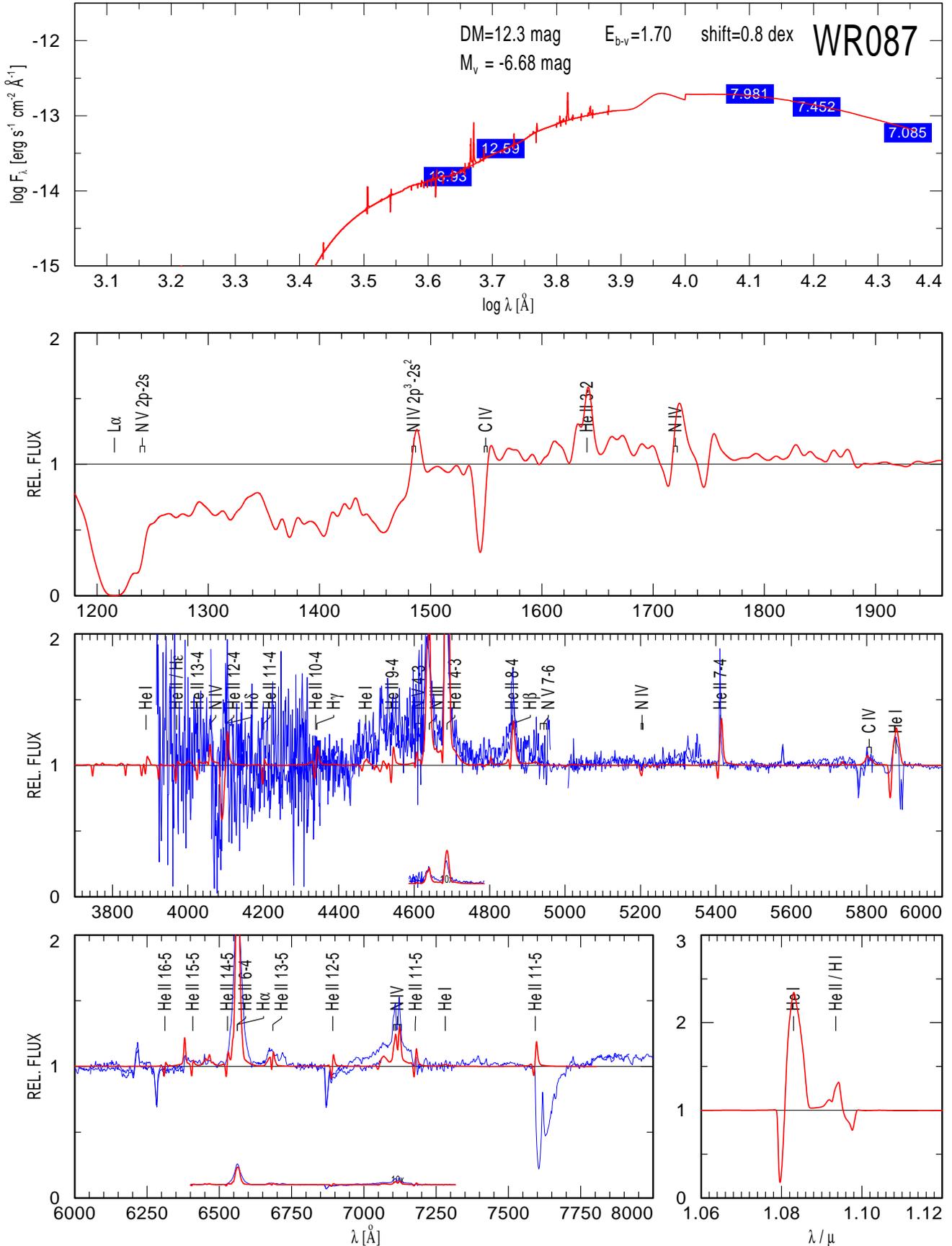


Fig. 49. Model: WNL 06-08,  $T_* = 45$  kK,  $\log(R_t/R_o) = 1.3$

MODEL START 11/28/03 11:55:59 39811/1.40D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 5-07 AFTER JOB NO.566

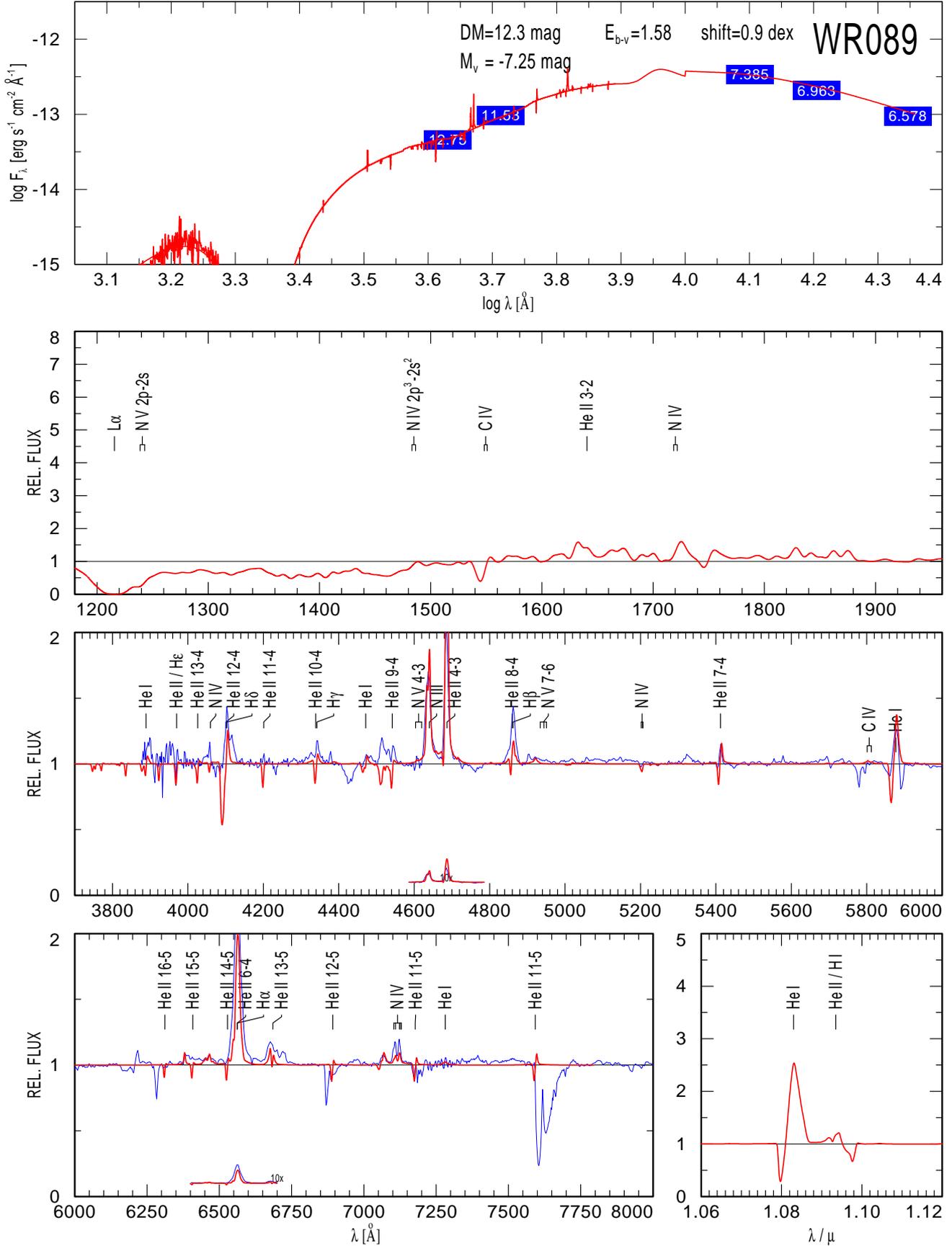


Fig. 50. Model: WNL 05-07,  $T_* = 40$  kK,  $\log(R_t/R_\odot) = 1.4$



MODEL START 04/20/03 00:18:54 56234/0.90D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 08-12 AFTER JOB NO.172

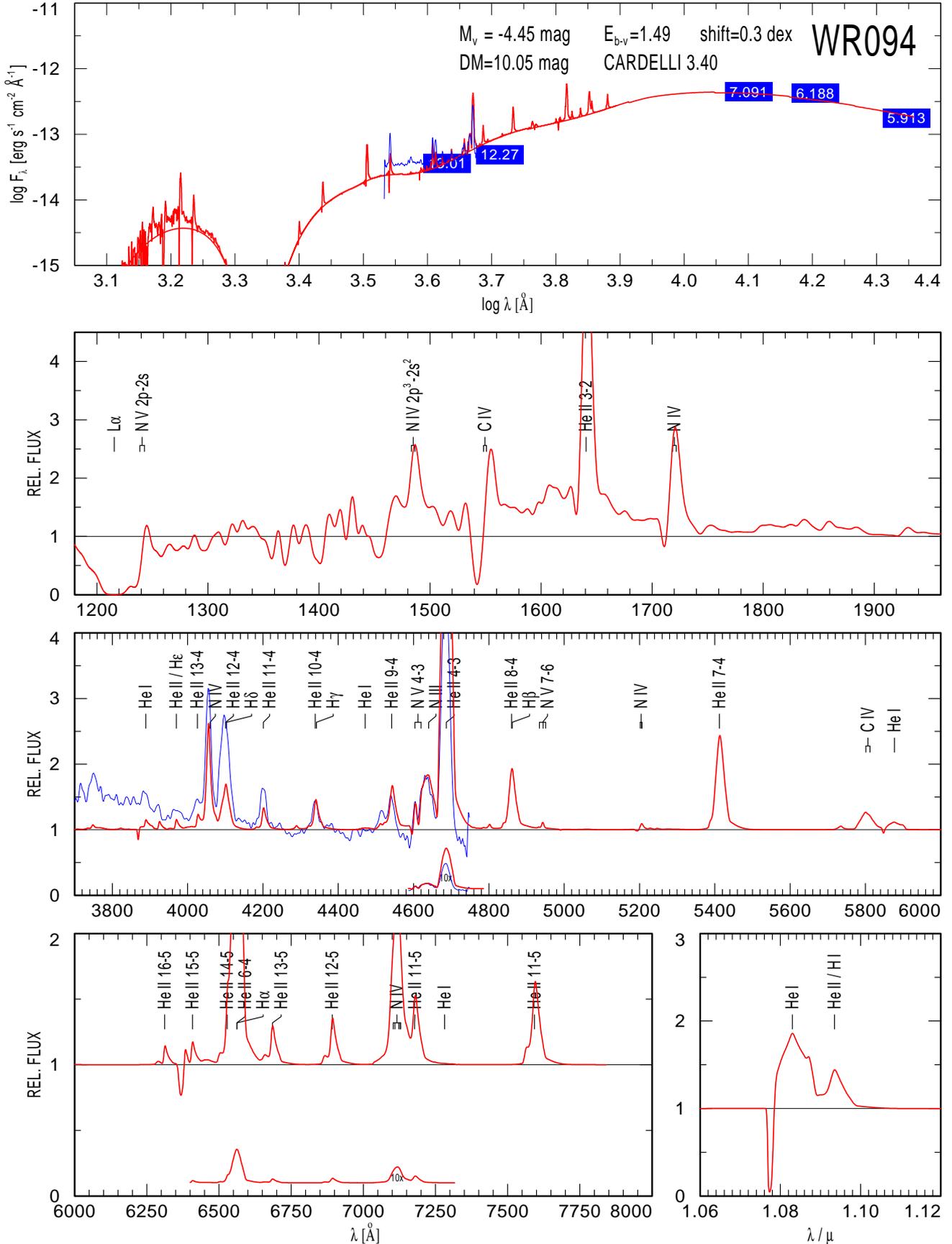


Fig. 52. Model: WNE 08-12,  $T_* = 56$  kK,  $\log(R_t/R_\odot) = 0.9$



MODEL START 12/08/03 10:01:14 35481/1.1D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 04-10 AFTER JOB NO.454

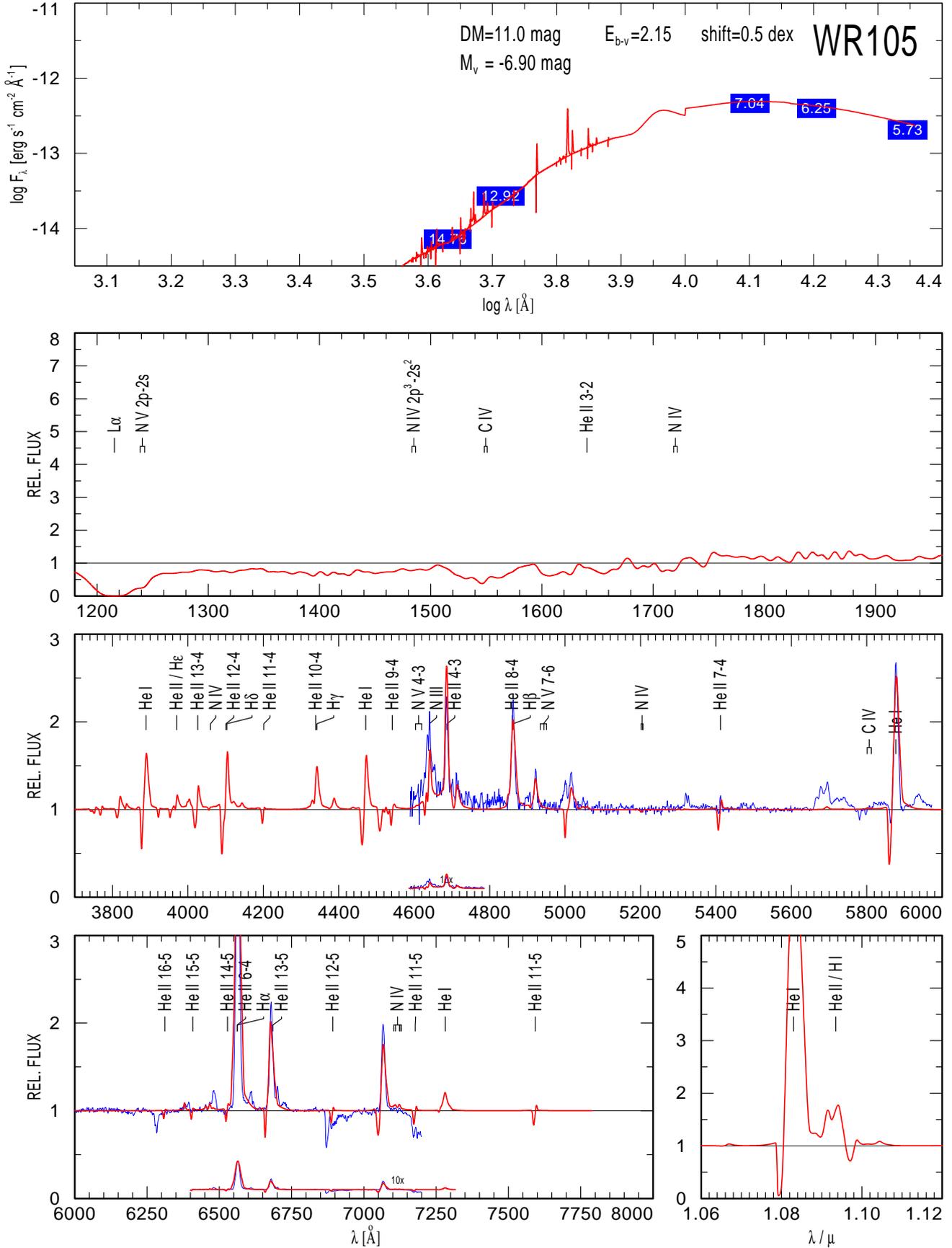


Fig. 54. Model: WNL 04-10,  $T_* = 35$  kK,  $\log(R_t/R_\odot) = 1.1$

MODEL START 10/13/03 10:17:15 50119/0.80D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 07-13 AFTER JOB NO.438

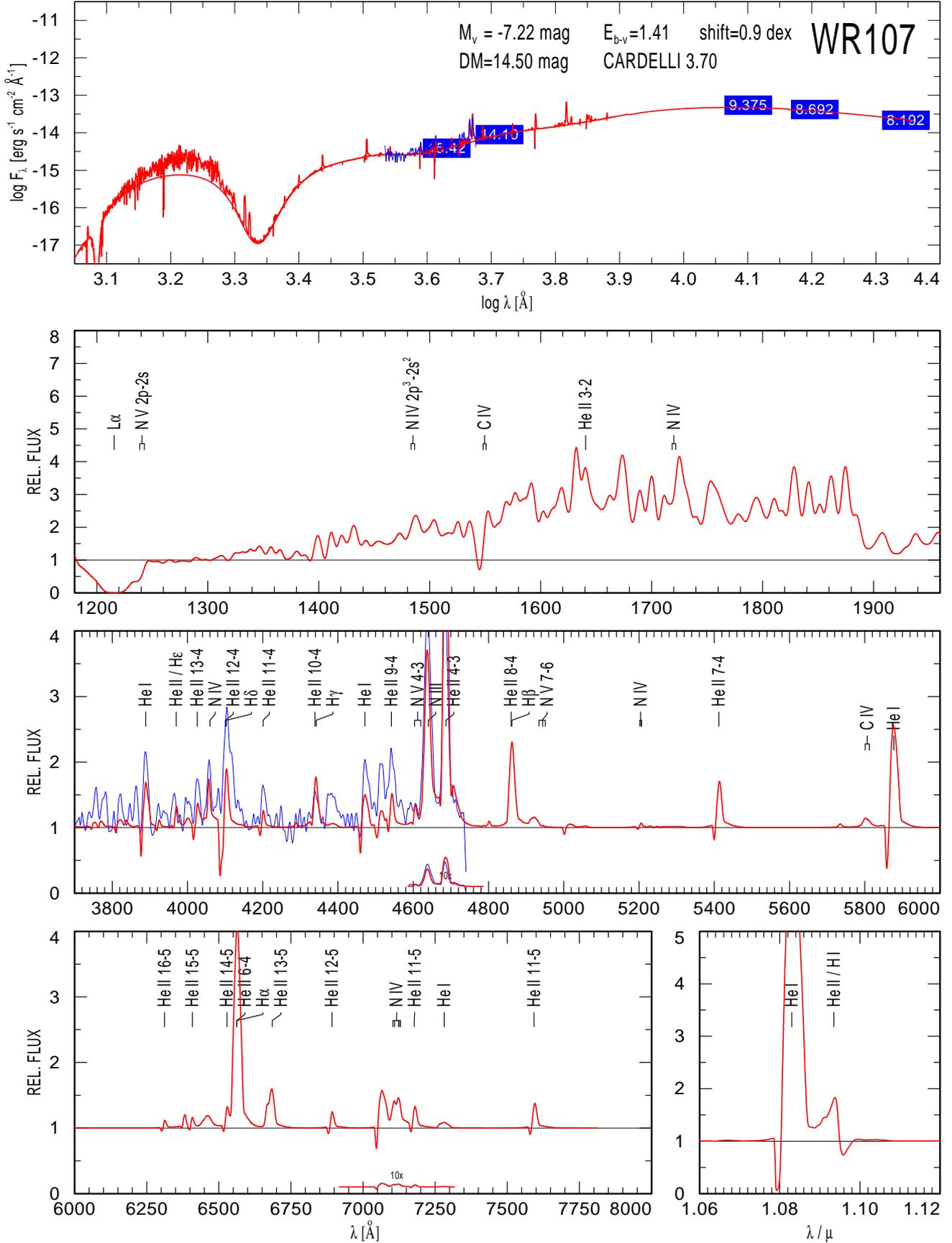


Fig. 55. Model: WNL 07-13,  $T_* = 50$  kK,  $\log(R_t/R_\odot) = 0.8$

MODEL START 11/28/03 11:55:59 39811/1.40D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 5-07 AFTER JOB NO.566

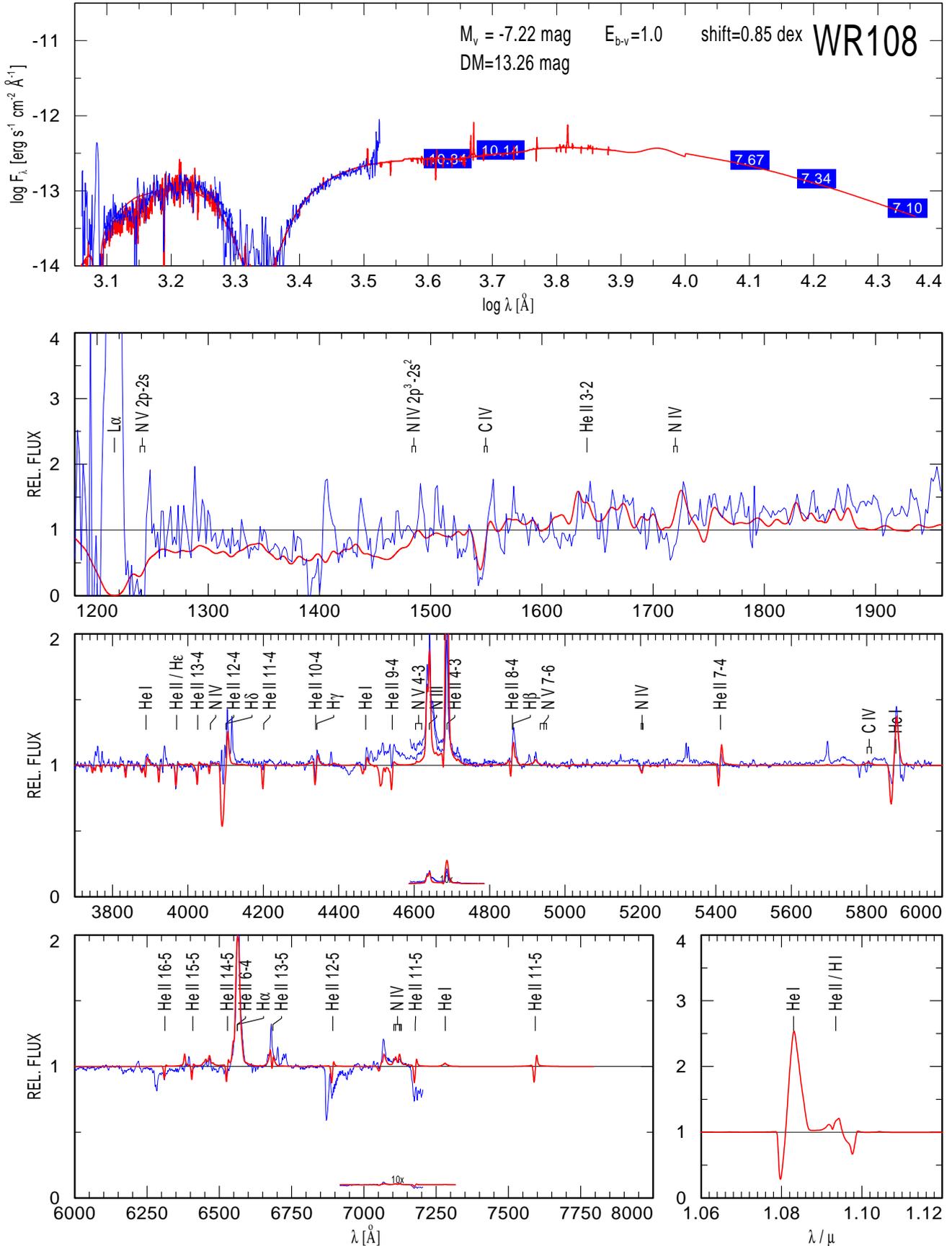


Fig. 56. Model: WNL 05-07,  $T_* = 40$  kK,  $\log(R_t/R_o) = 1.4$

MODEL START 03/23/03 17:19:09 70795/0.5D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 10-16 AFTER JOB NO.912

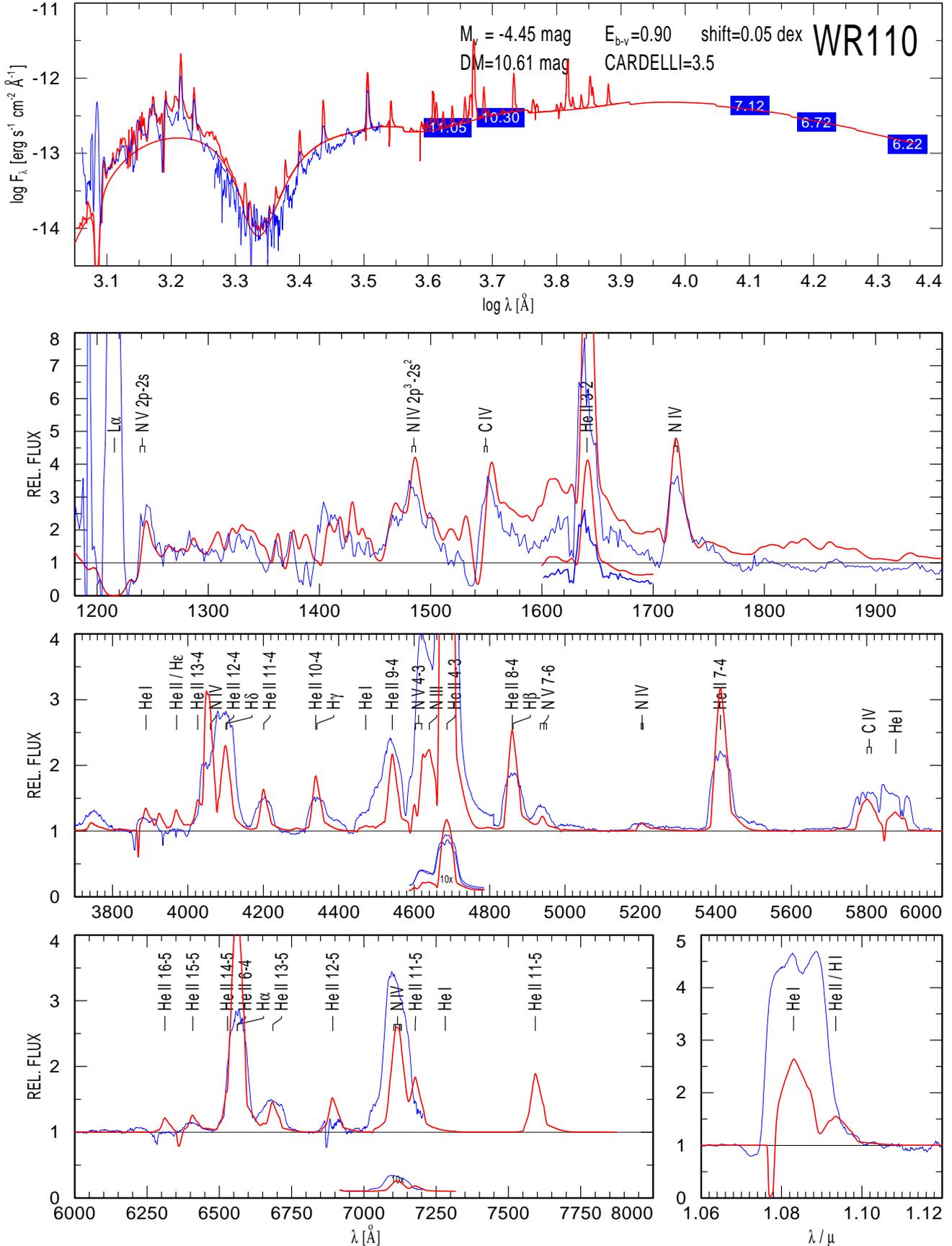


Fig. 57. Model: WNE 10-16,  $T_* = 71 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.5$

MODEL START 05/05/03 21:33:49 50119/0.90D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 07-12 AFTER JOB NO.802

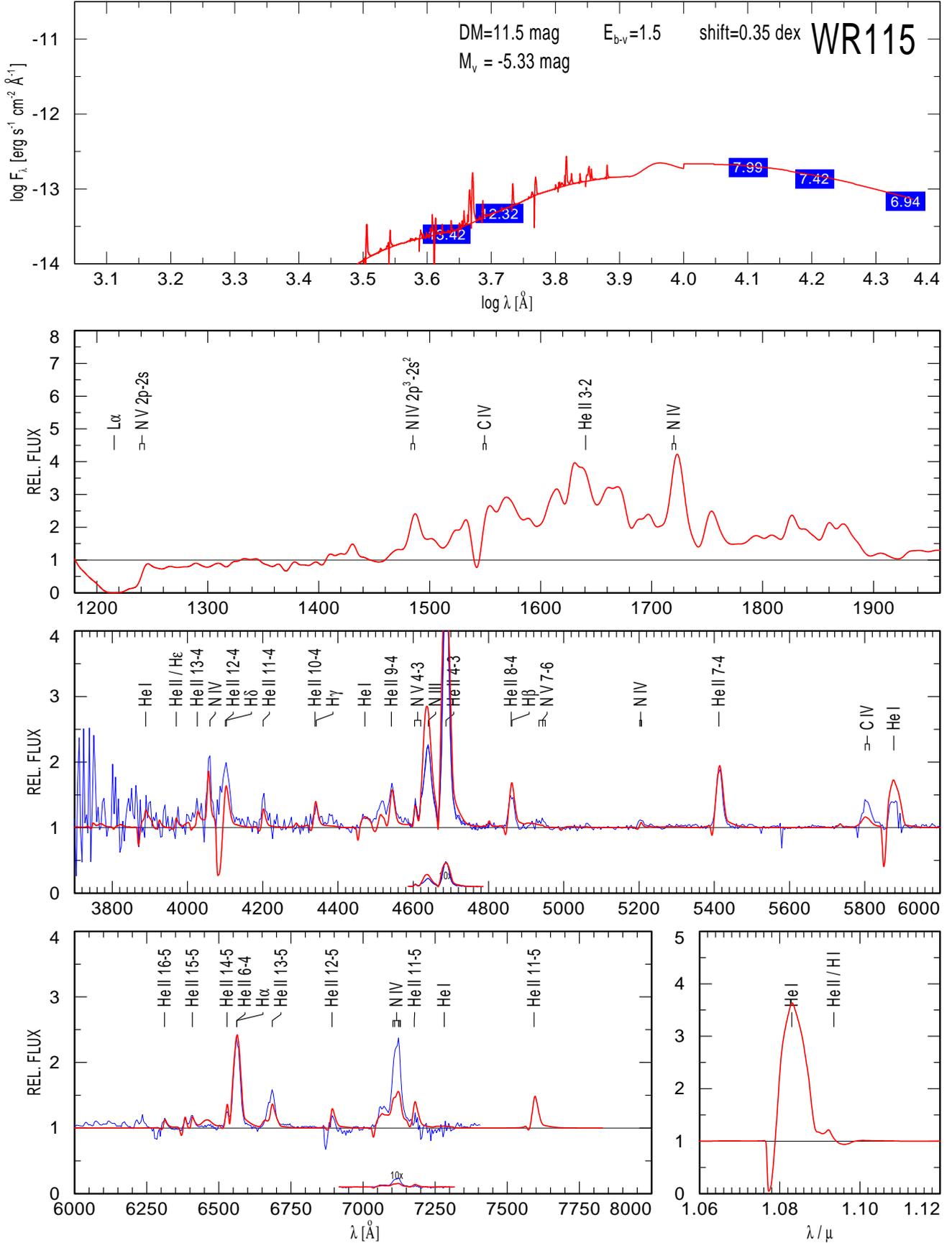


Fig. 58. Model: WNE 07-12,  $T_* = 50$  kK,  $\log(R_t/R_\odot) = 0.9$

MODEL START 12/01/03 10:57:28 39811/0.80D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 5-13 AFTER JOB NO.813

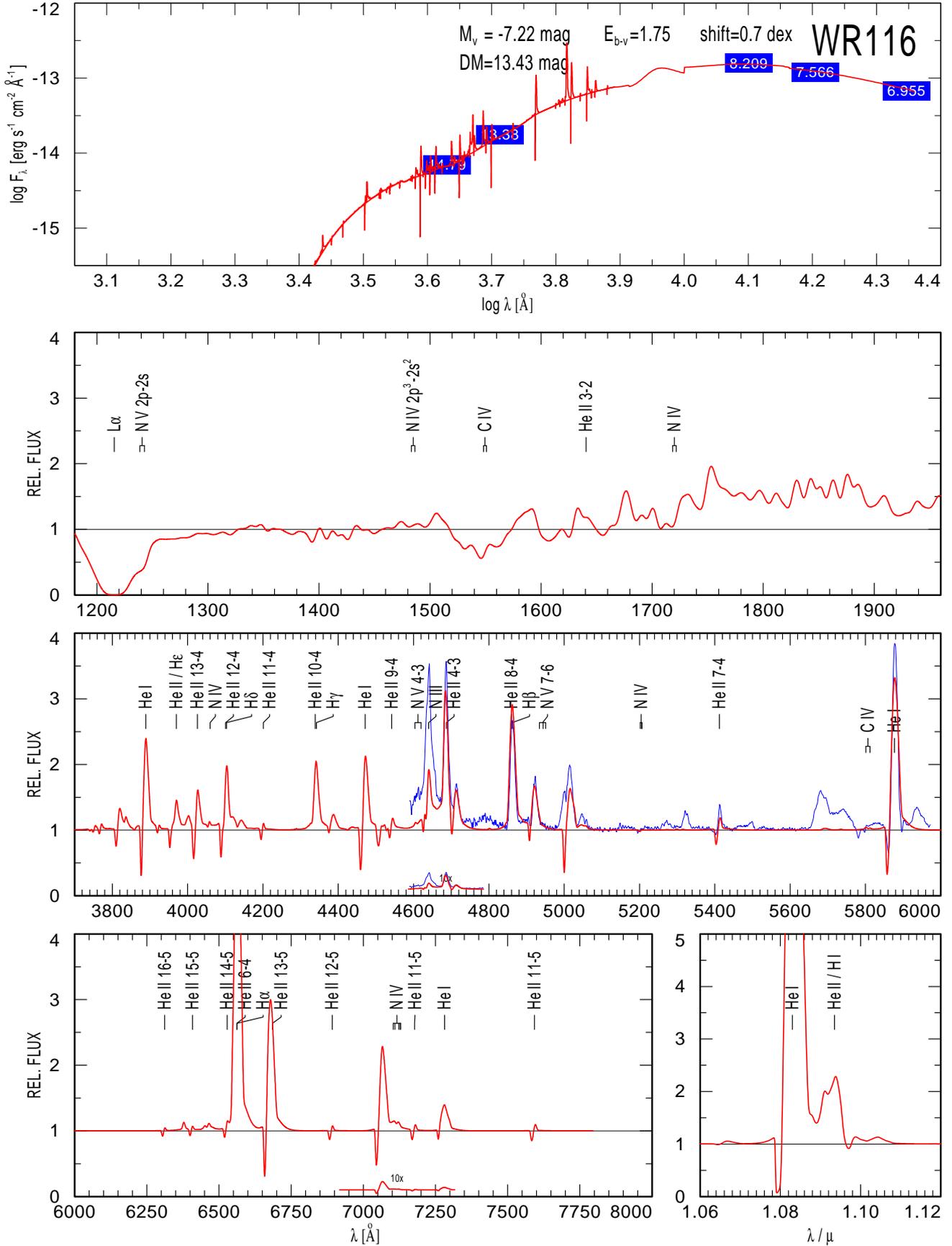


Fig. 59. Model: WNL 05-13,  $T_* = 40 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.8$



MODEL START 05/24/03 09:23:29 44668/0.70D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 06-14 AFTER JOB NO.908

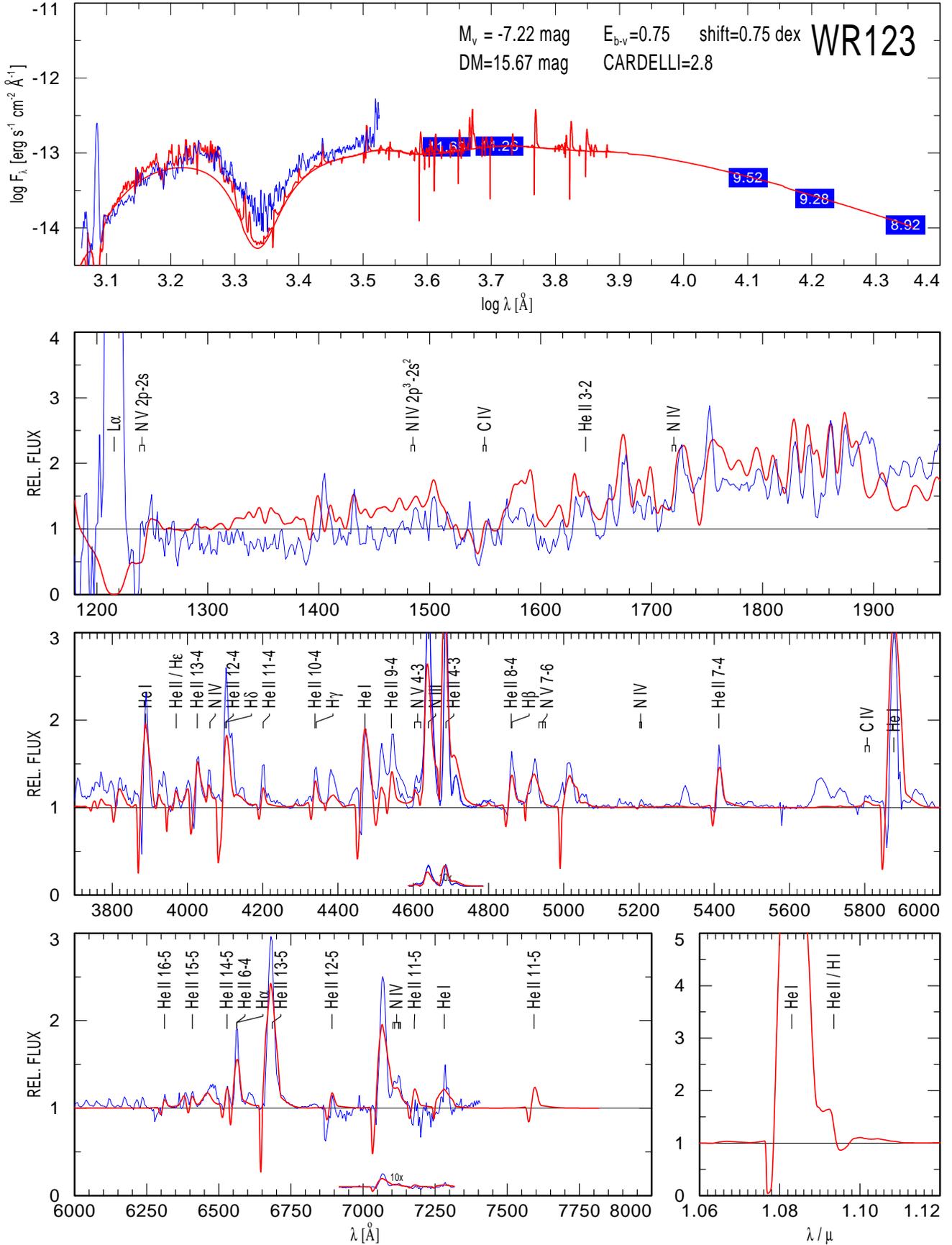


Fig. 61. Model: WNE 06-14,  $T_* = 45 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.7$

MODEL START 10/01/03 16:06:27 44668/0.70D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-14 AFTER JOB NO.514

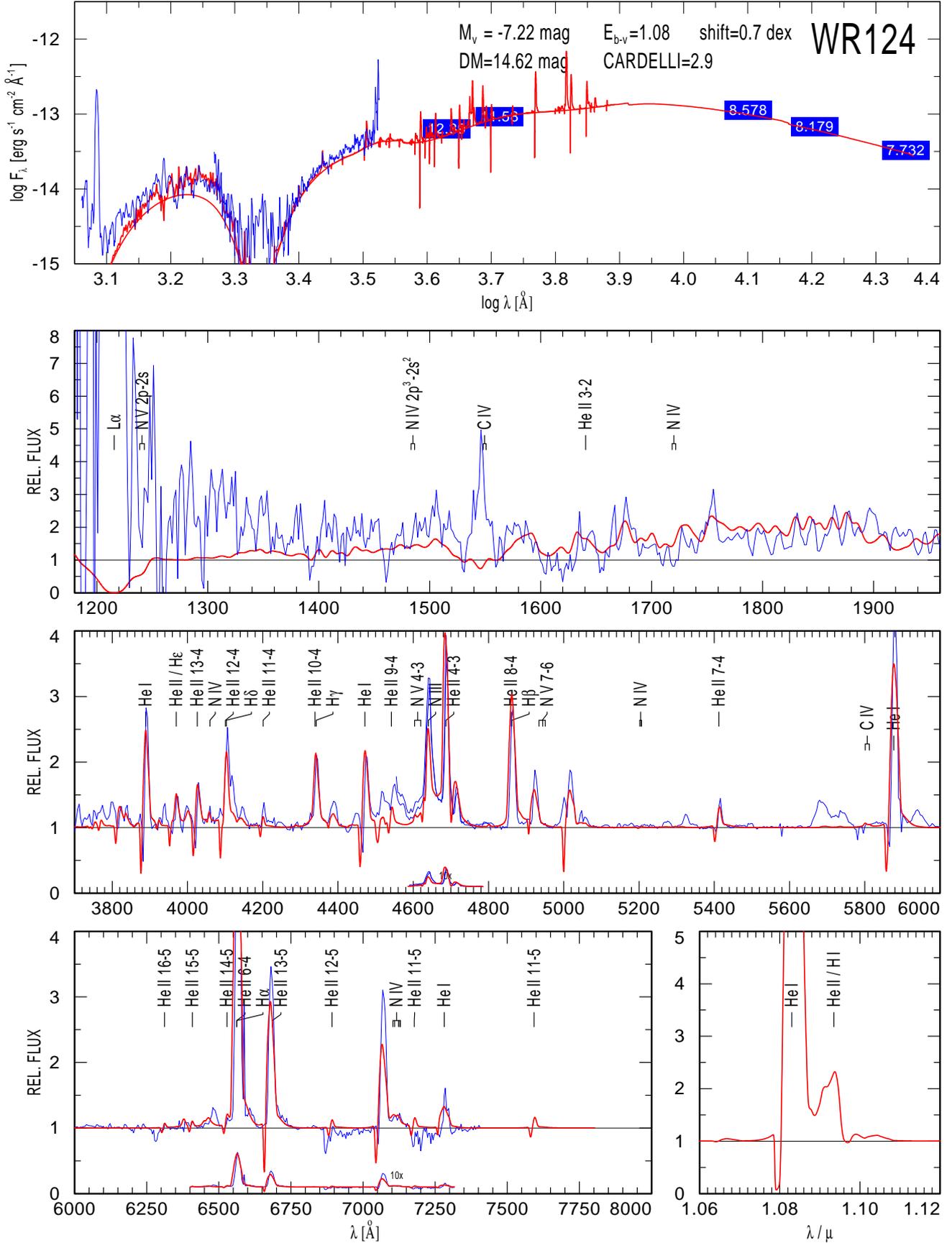


Fig. 62. Model: WNL 06-14,  $T_* = 45 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.7$

MODEL START 11/03/03 09:45:57 70795/1.1D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 10-10 AFTER JOB NO.631

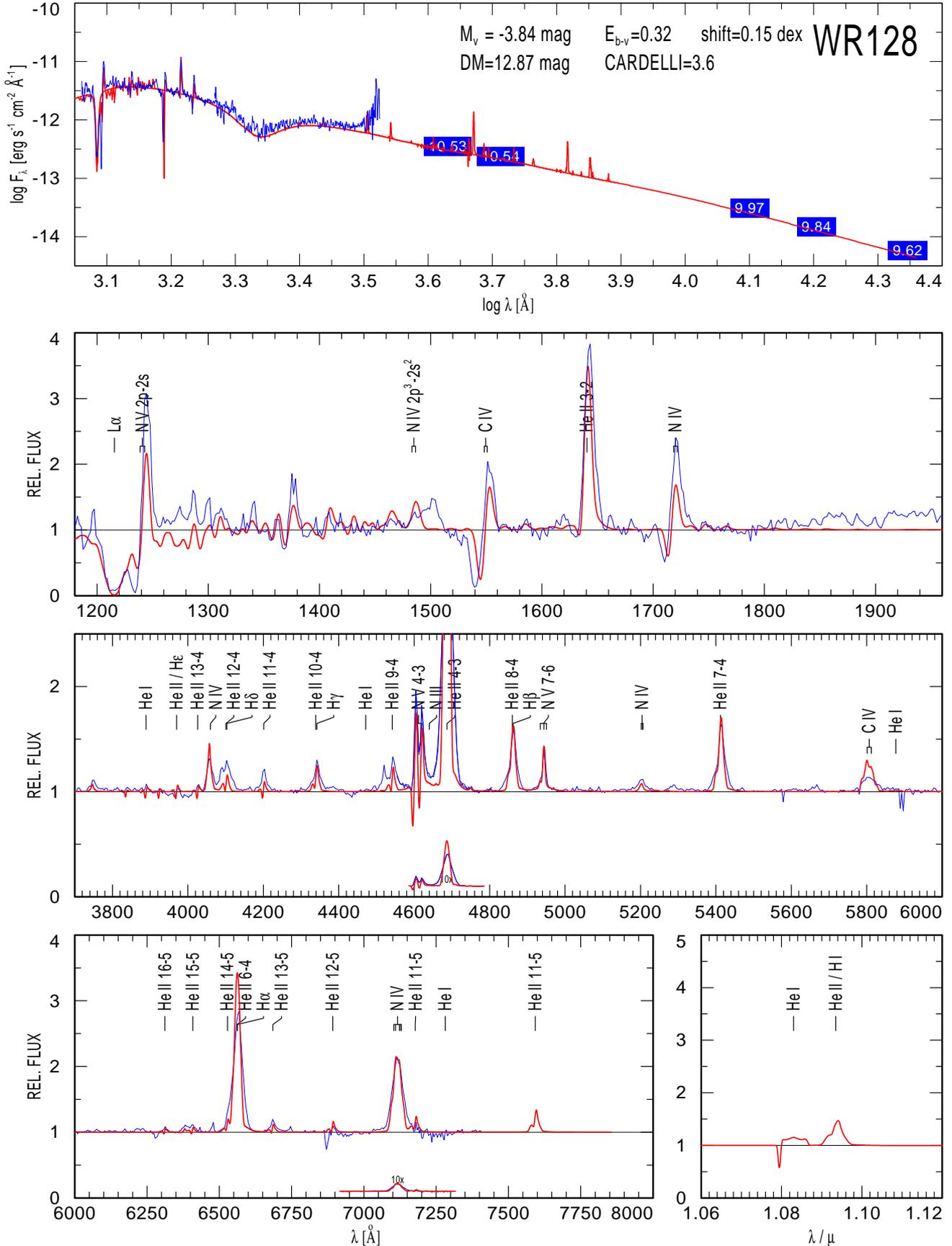


Fig. 63. Model: WNL 10-10,  $T_* = 71 \text{ kK}$ ,  $\log(R_t/R_\odot) = 1.1$

MODEL START 04/04/03 12:29:14 63096/0.9D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 09-12 AFTER JOB NO.946

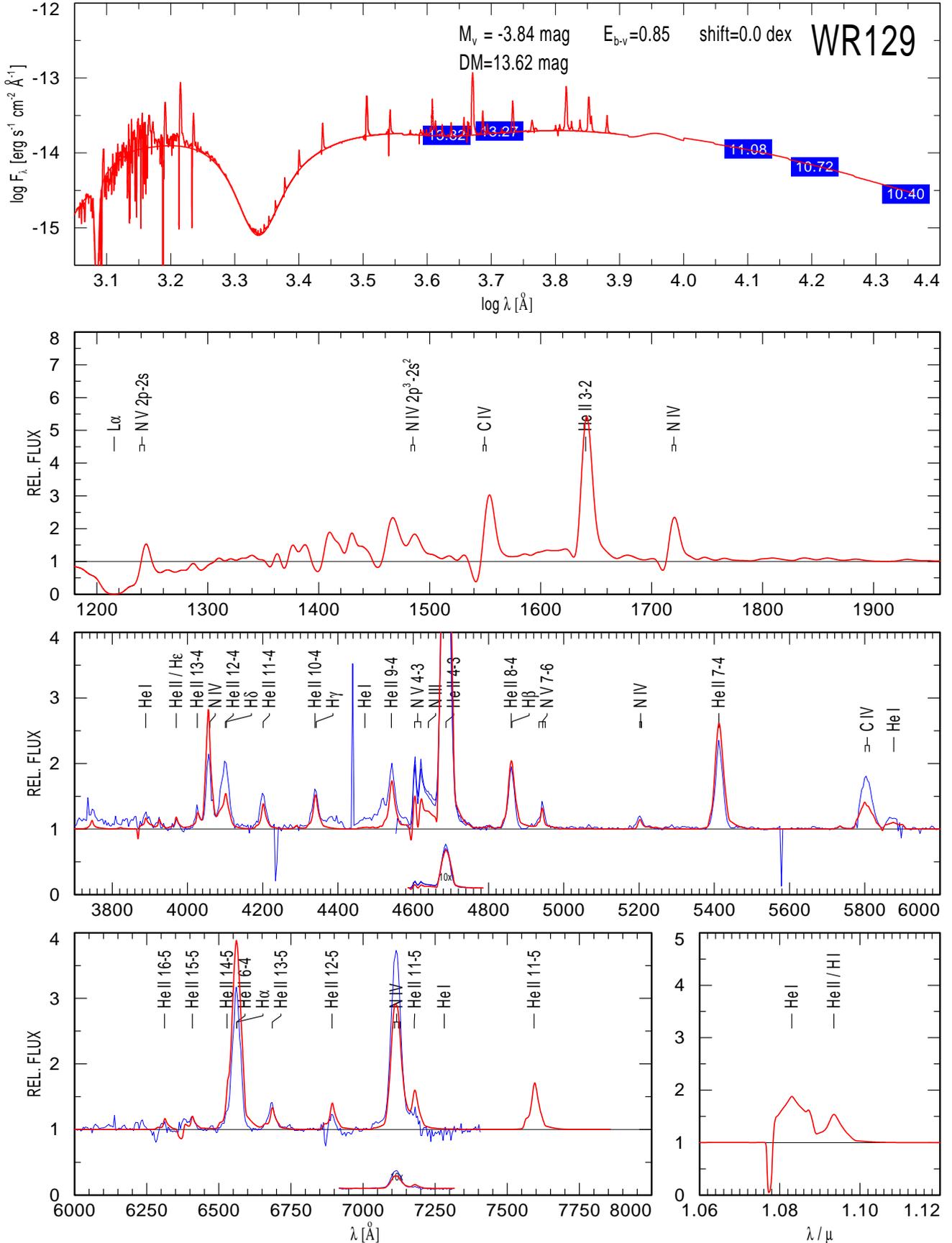


Fig. 64. Model: WNE 09-12,  $T_* = 63 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.9$



MODEL START 11/21/03 16:50:35 44668/1.30D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-08 AFTER JOB NO.156

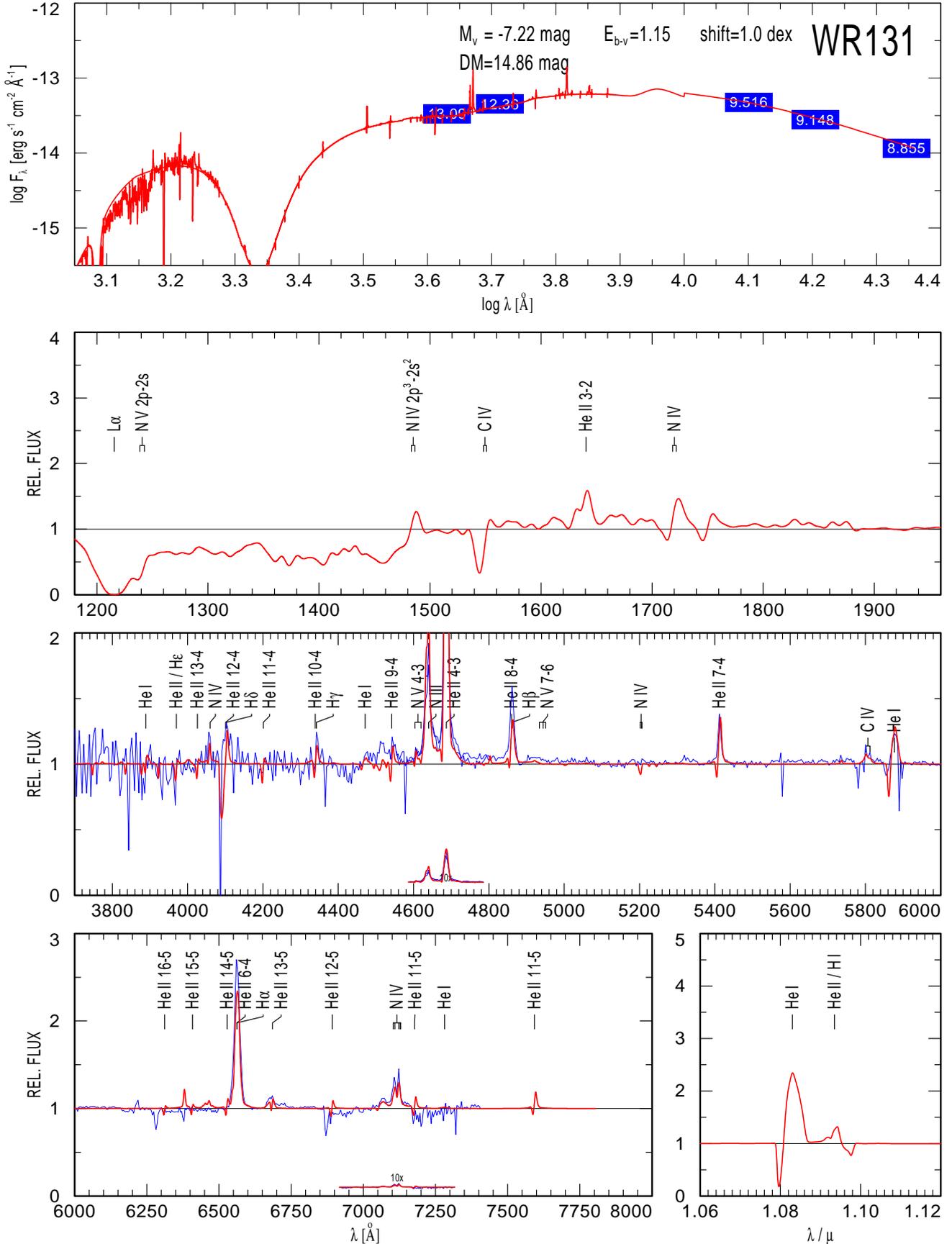


Fig. 66. Model: WNL 06-08,  $T_* = 45$  kK,  $\log(R_t/R_\odot) = 1.3$

MODEL START 03/31/03 23:18:48 63096/0.7D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 9-14 AFTER JOB NO.425

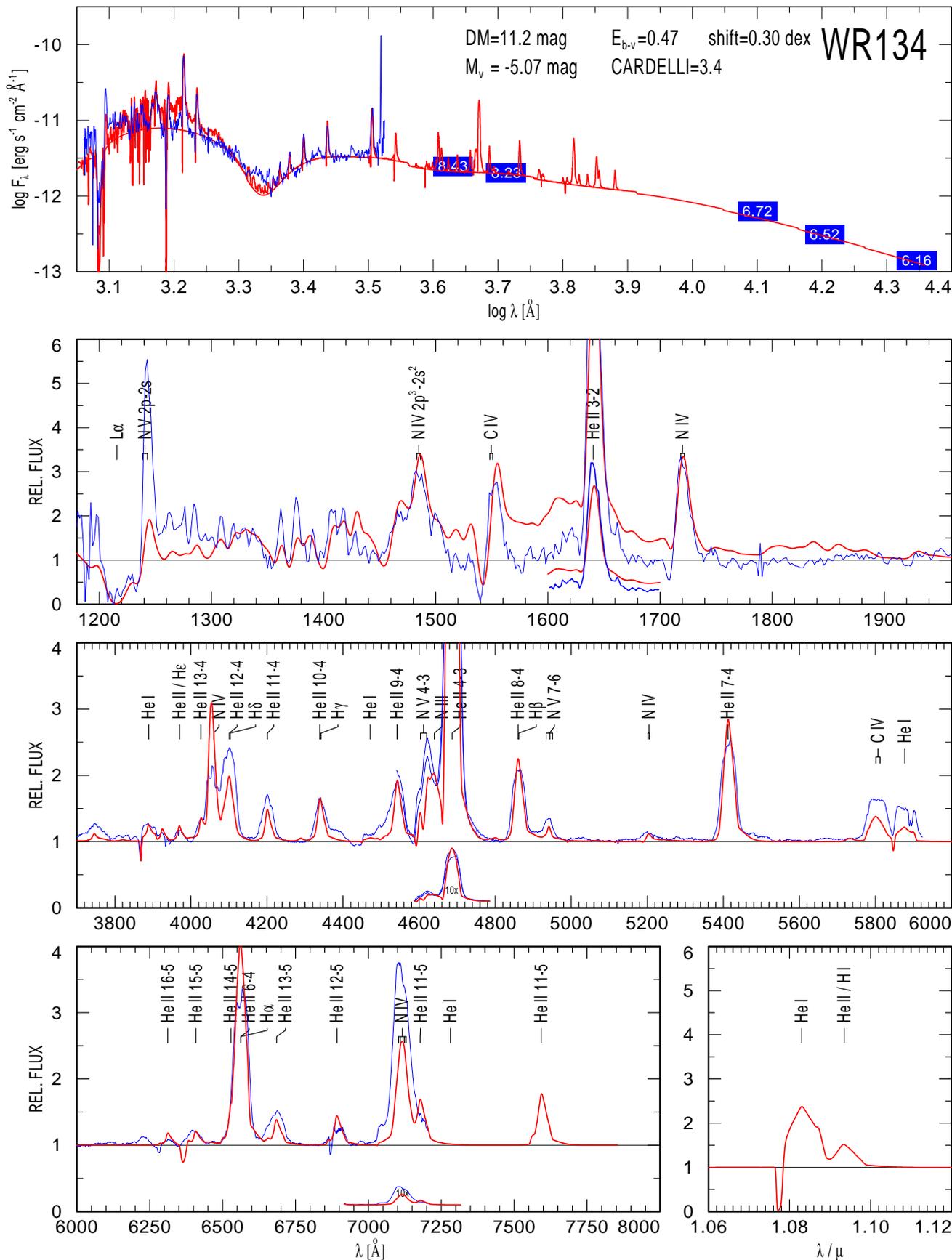


Fig. 67. Model: WNE 09-14,  $T_* = 63$  kK,  $\log(R_t/R_\odot) = 0.7$

MODEL START 11/05/03 09:21:16 70795/0.5D/1000 L=5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 10-16 AFTER JOB NO.368

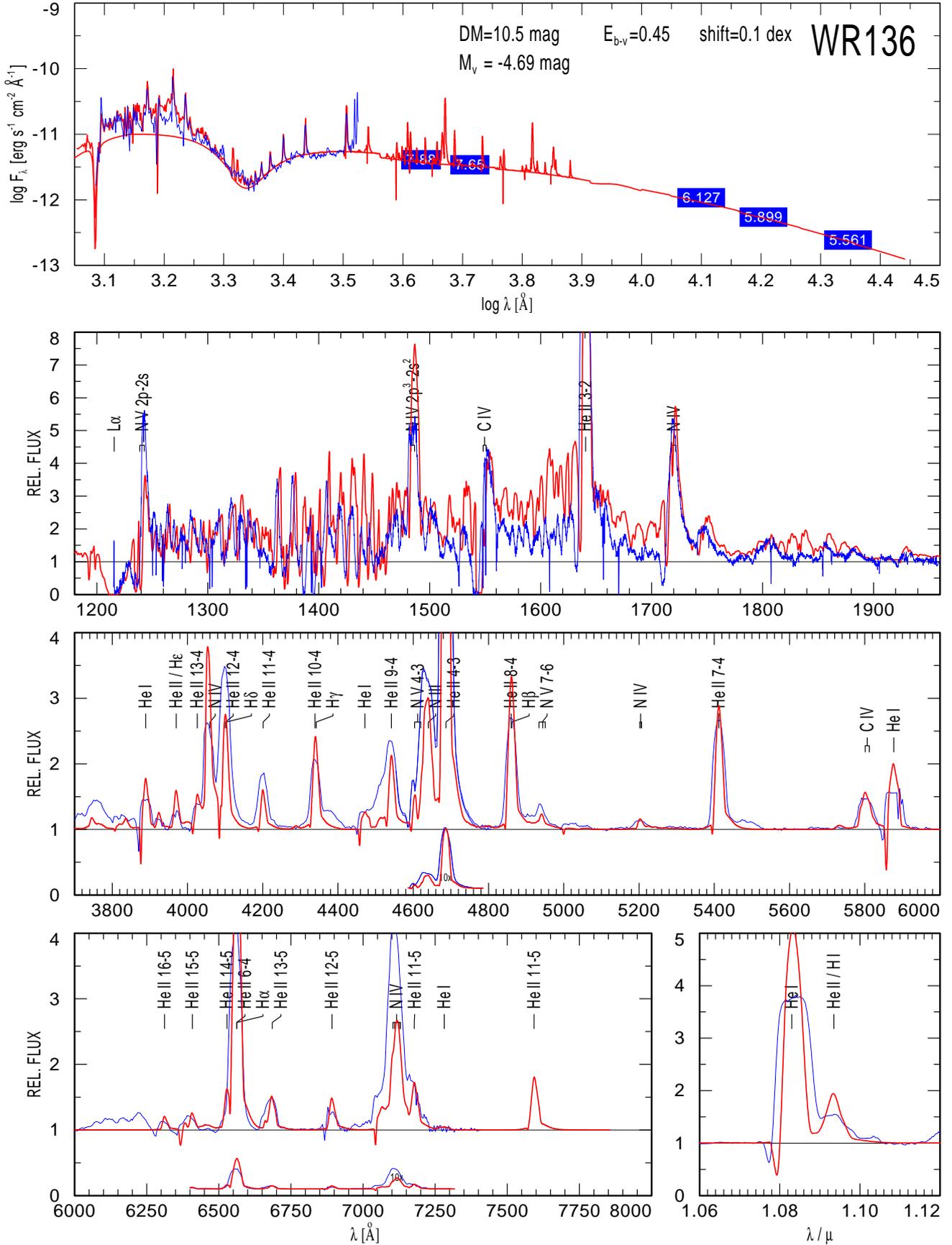


Fig. 68. Model: WNL 10-16,  $T_* = 71$  kK,  $\log(R_t/R_\odot) = 0.5$



MODEL START 11/28/03 13:08:07 39811/1.30D/1000 L5.3 H2O N1.5% C1E-4 Fe0.14% D4 WNL-NODR 5-08 AFTER JOB NO.436

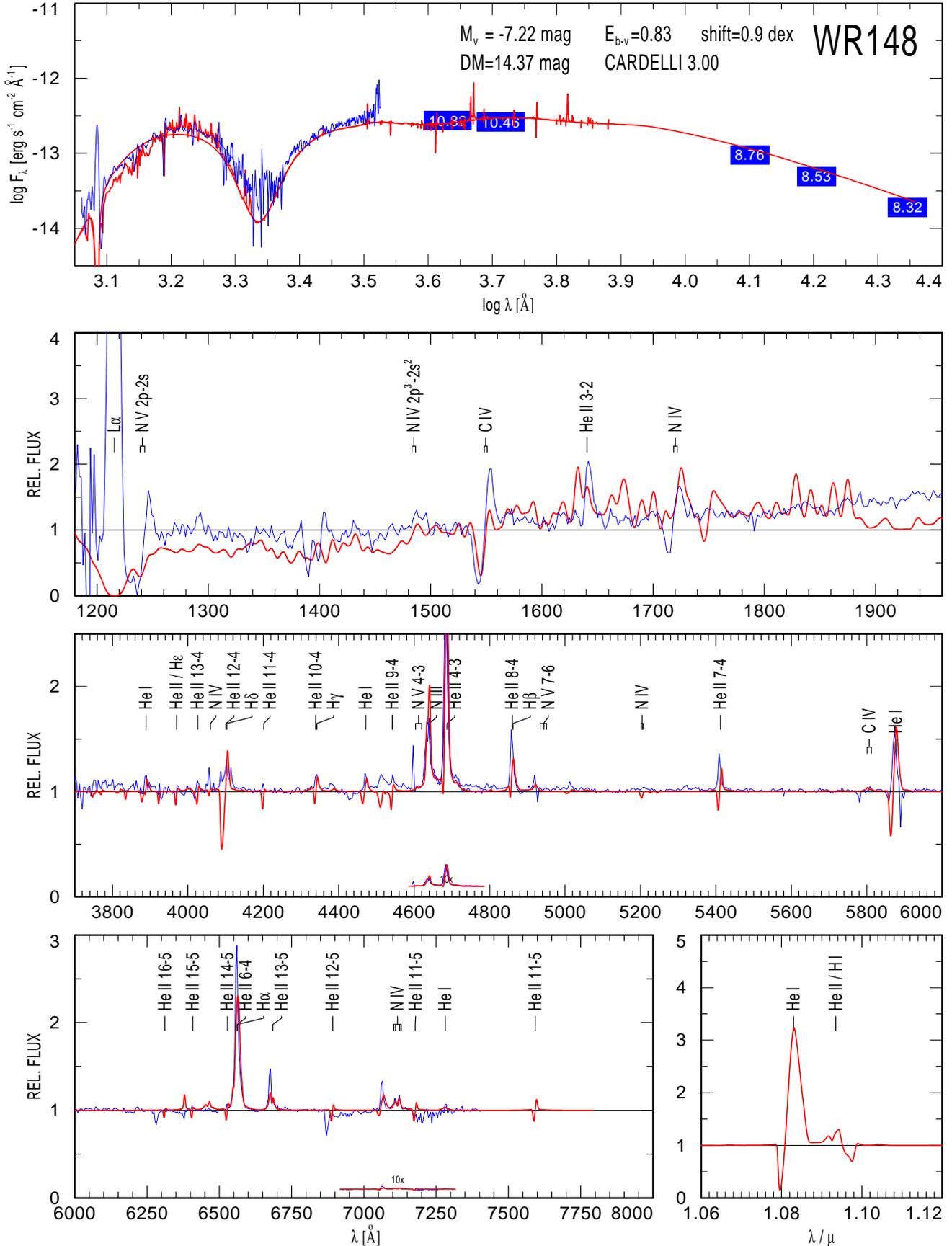


Fig. 70. Model: WNL 05-08,  $T_* = 40 \text{ kK}$ ,  $\log(R_t/R_\odot) = 1.3$

MODEL START 03/31/03 23:18:48 63096/0.7D/1600 L=5.3 N=1.5% C=1E-4 Fe=1.4E-3 D4 WN-NODIEL 9-14 AFTER JOB NO.425

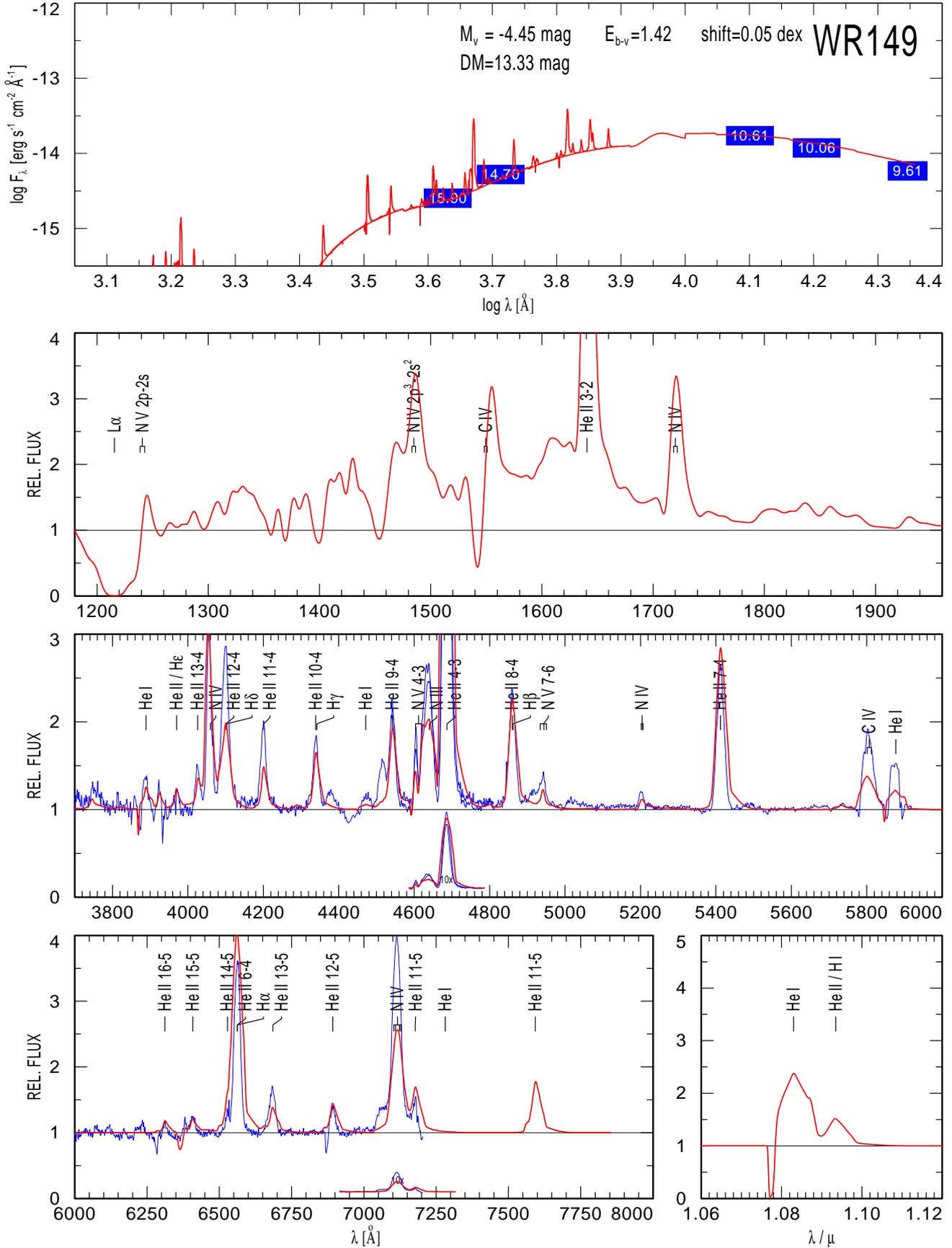


Fig. 71. Model: WNE 09-14,  $T_* = 63 \text{ kK}$ ,  $\log(R_t/R_\odot) = 0.7$

MODEL START 11/07/03 09:58:49 79433/1.1D/1000 L=5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 11-10 AFTER JOB NO.414

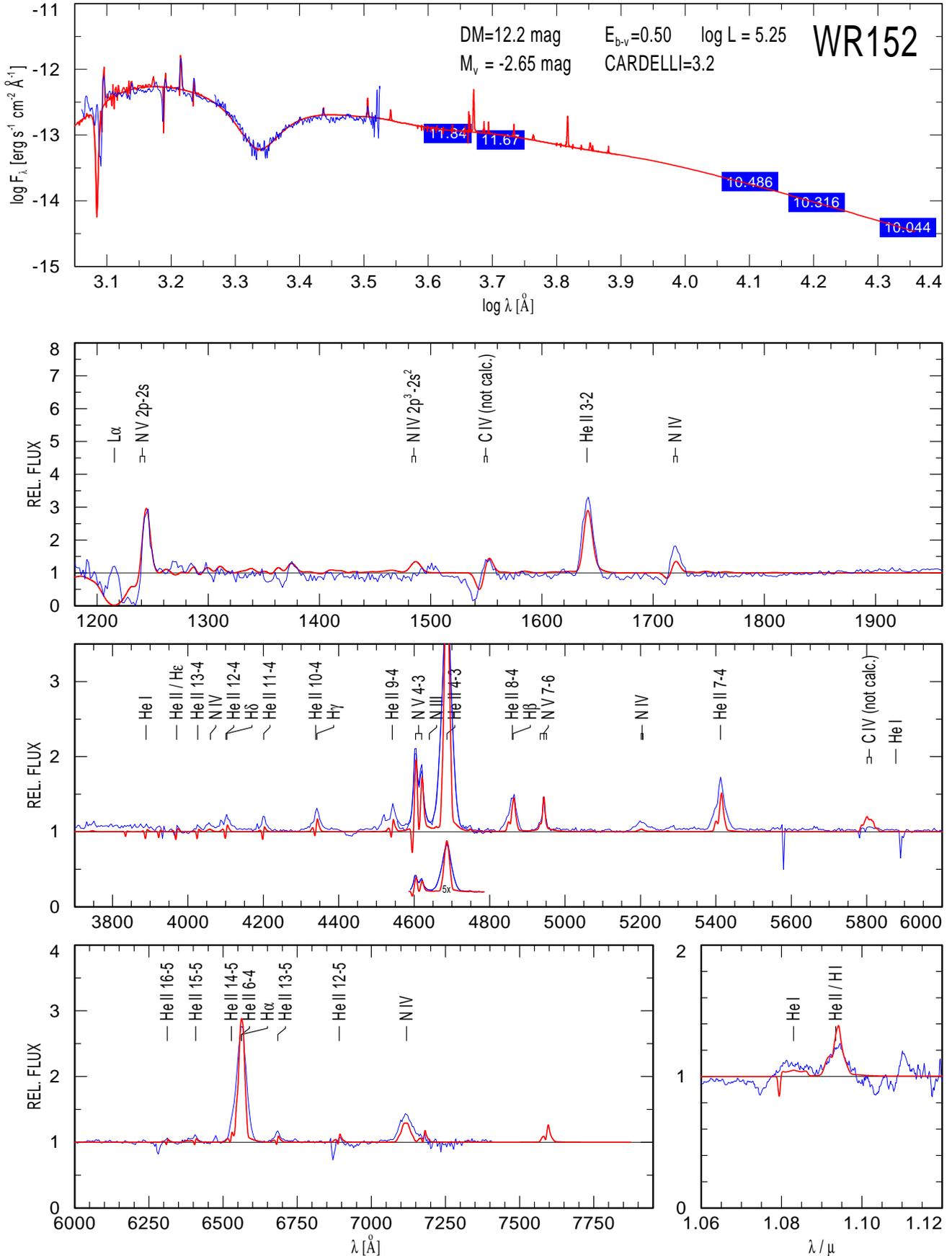


Fig. 72. Model: WNL 11-10,  $T_* = 79$  kK,  $\log(R_1/R_\odot) = 1.1$

MODEL START 12/01/03 10:41:44 39811/1.1D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 5-10 AFTER JOB NO.572

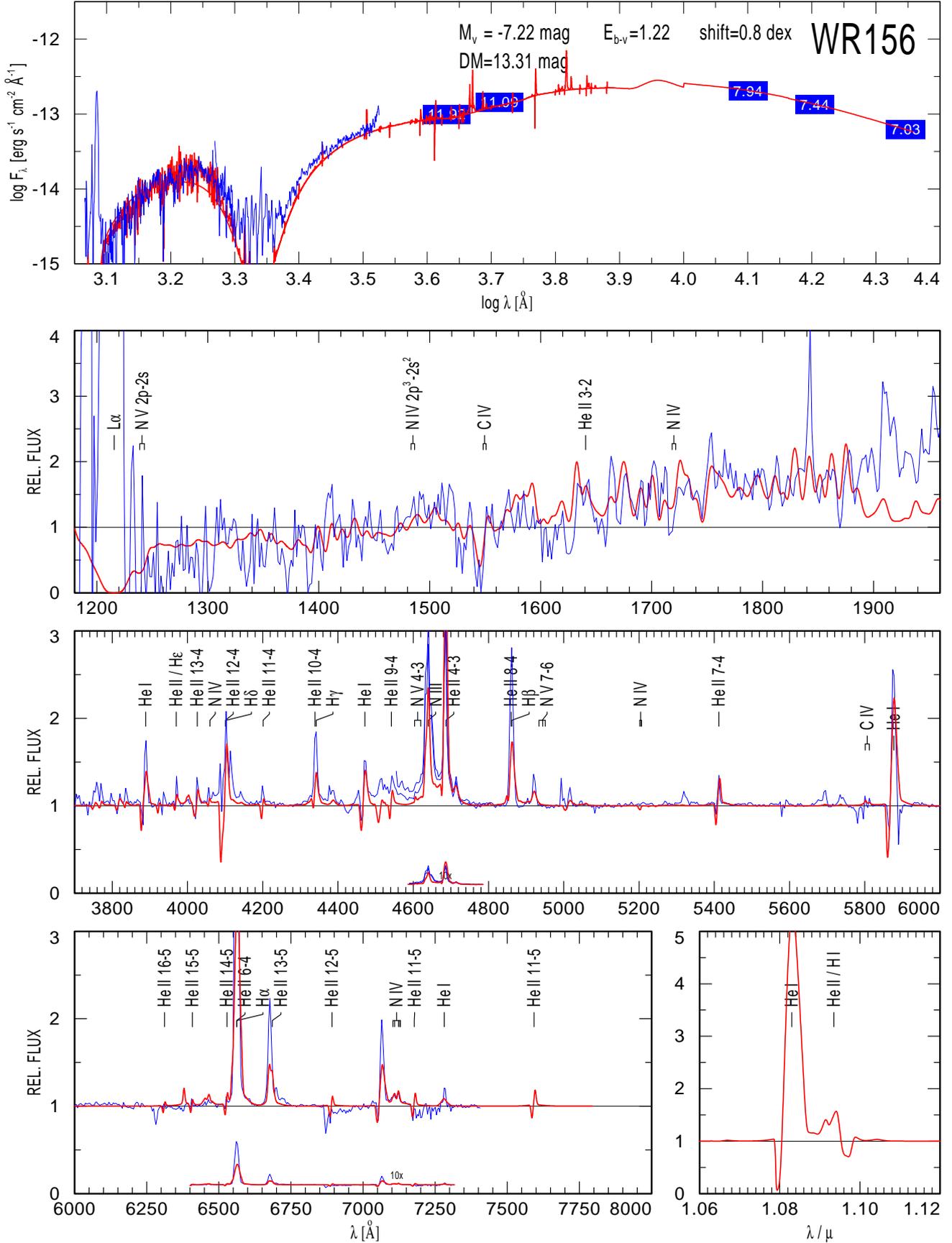


Fig. 73. Model: WNL 05-10,  $T_* = 40 \text{ kK}$ ,  $\log(R_t/R_\odot) = 1.1$

MODEL START 11/24/03 09:20:04 44668/1.2D/1000 L5.3 H20 N1.5% C1E-4 Fe0.14% D4 WNL-NODR 06-09 AFTER JOB NO.780

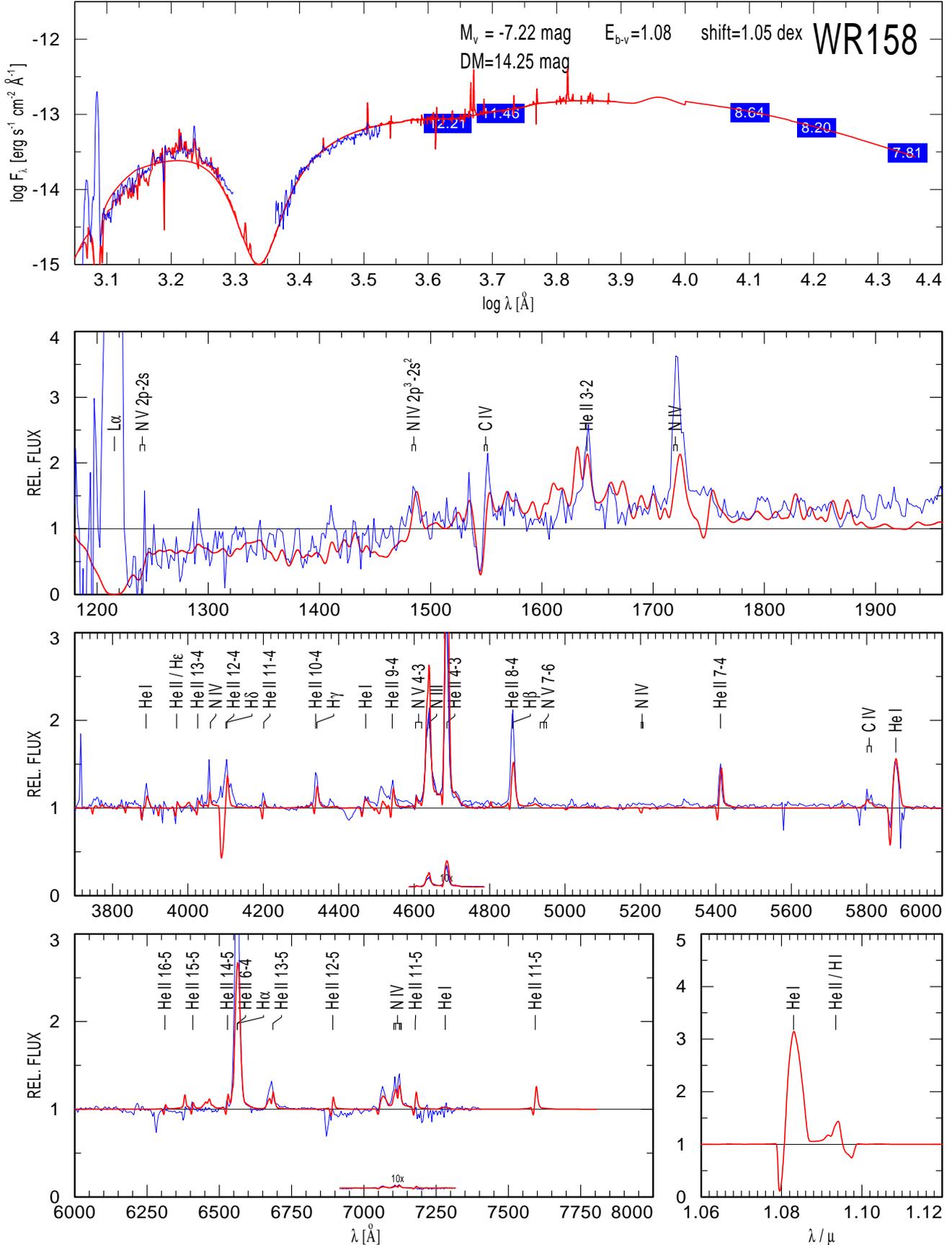


Fig. 74. Model: WNL 06-09,  $T_* = 45$  kK,  $\log(R_t/R_\odot) = 1.2$