

Veloce ThAr Atlas

This atlas is meant to be a quick guide for line identification purposes only. It was created from the optimal extracted flux in a single fibre (central fibre) of a representative observation taken on 17 September 2018 ("17sep30080.fits"). A total of 1141 lines are identified across 39 orders.

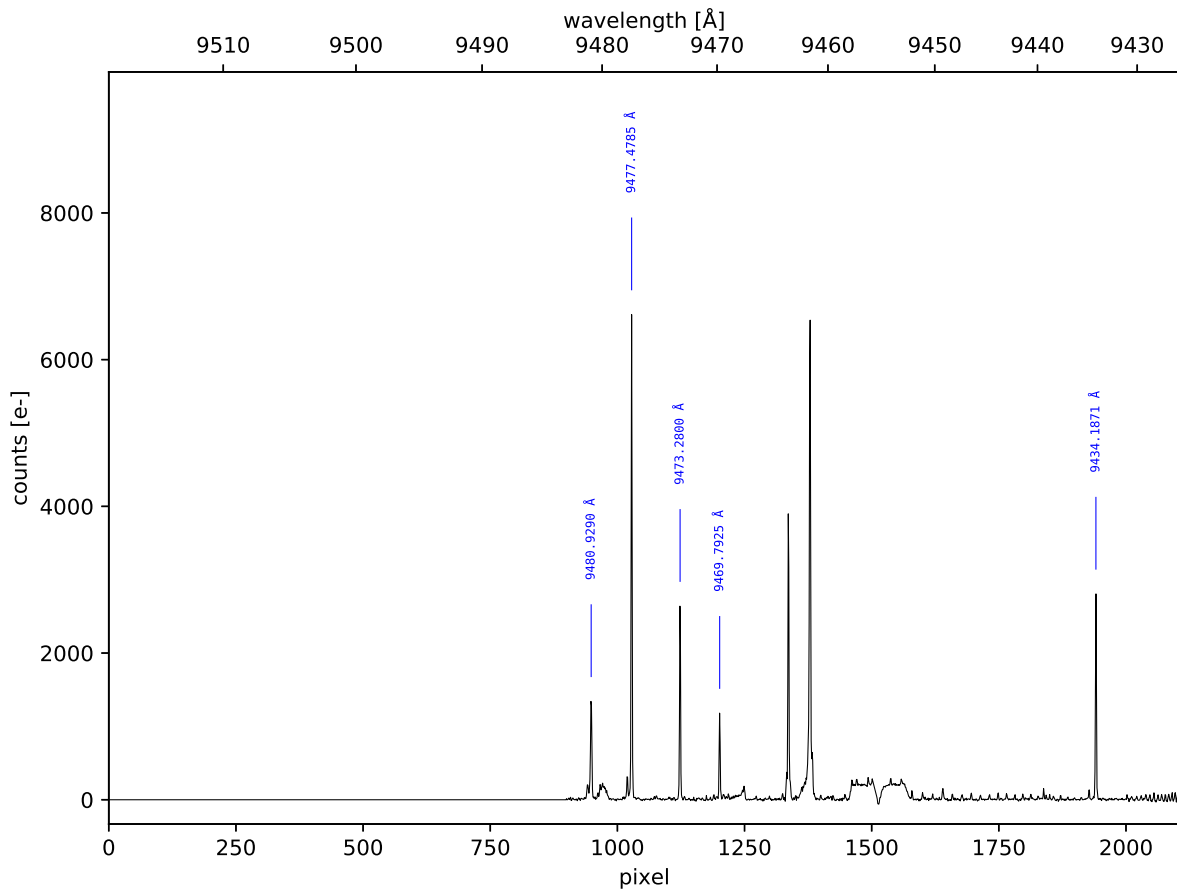
There are a few key points to note:

- All wavelengths quoted are **vacuum wavelengths!**
- The y-axis scales differ for every plot! This is due to the very large dynamic range of the emission lines, and an attempt to make most lines visible to the human eye. Some lines that are very strong compared to other lines in their half of the plots/order are therefore not fully shown.
- This atlas is meant to be as comprehensive as possible and thus still includes many low SNR lines, which may need to be excluded for individual ThAr exposures. In other words, this is a list of all the lines that were identified as potentially useful using Michael Murphy's line list. The full list containing 1164 lines across 40 orders is "thar_lines_used_in_7x7_fit_as_of_2018-10-19.dat".

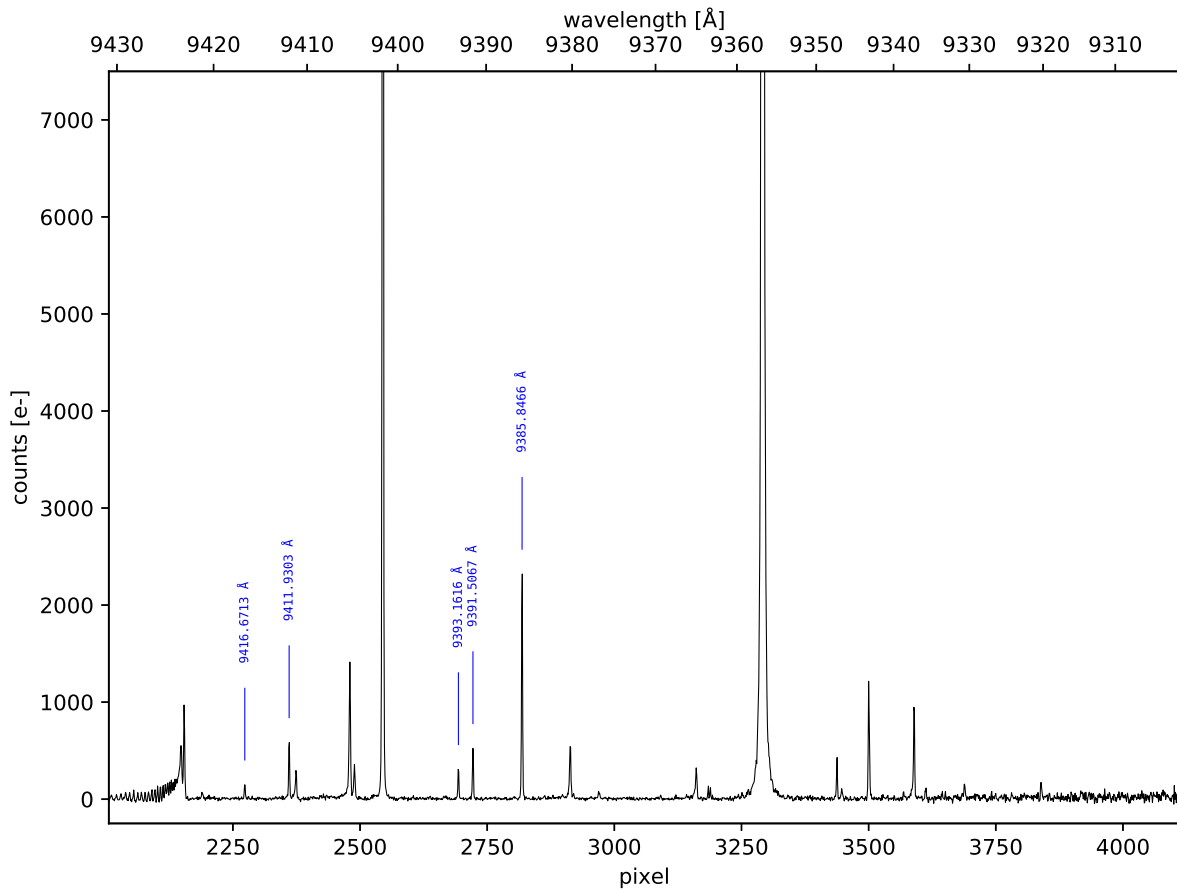
Christoph Michael Bergmann
School of Physics
UNSW Sydney
April 2019

Cure ThAr lamp: Order 01 ($m = 65$; # lines = 10)

Order 01 ($m = 65$) - red part

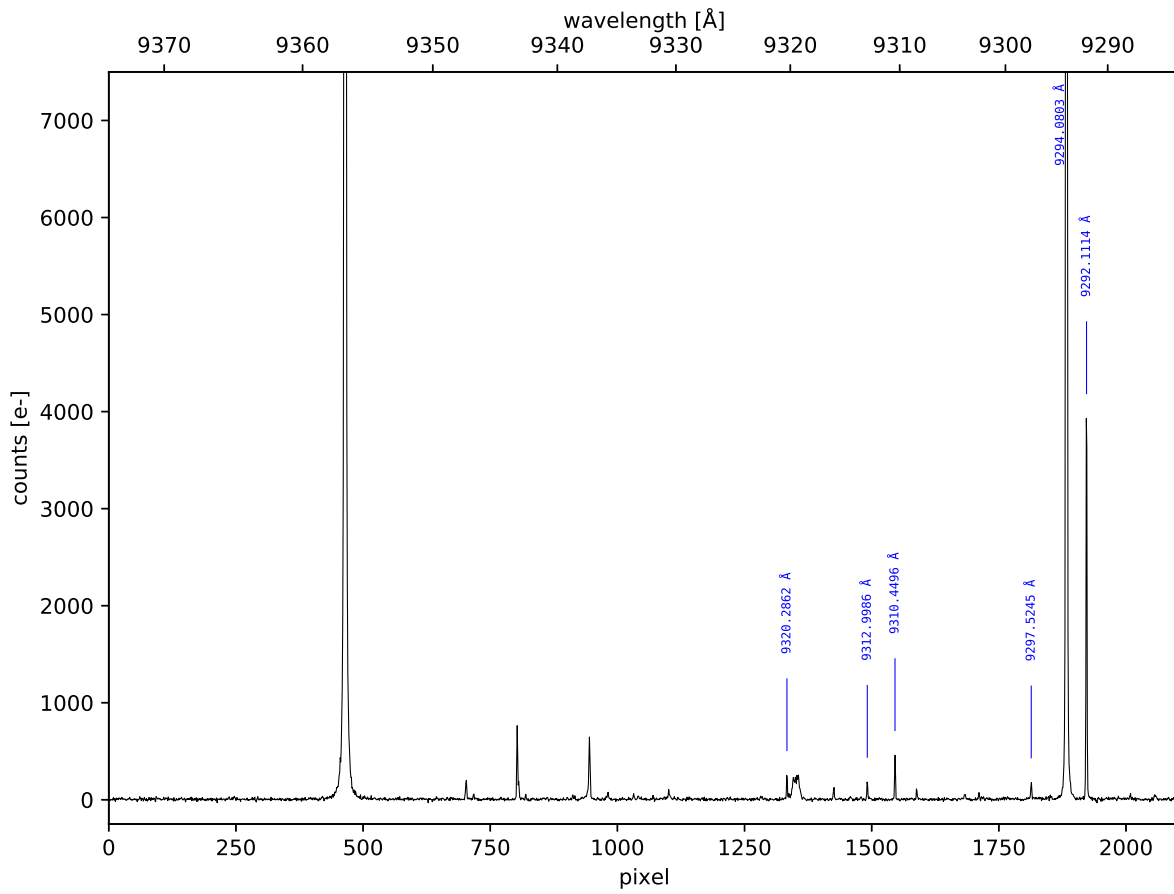


Order 01 ($m = 65$) - blue part

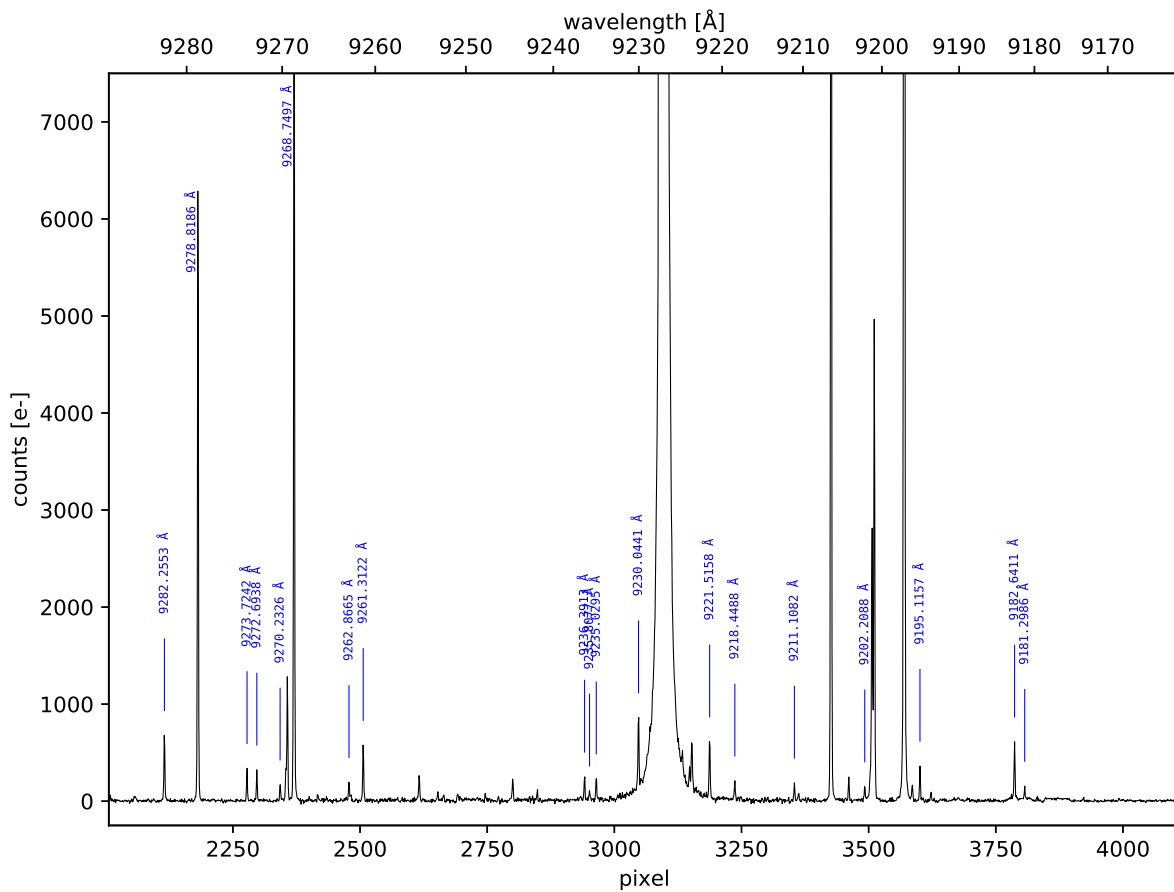


Cure ThAr lamp: Order 02 ($m = 66$; # lines = 25)

Order 02 ($m = 66$) - red part

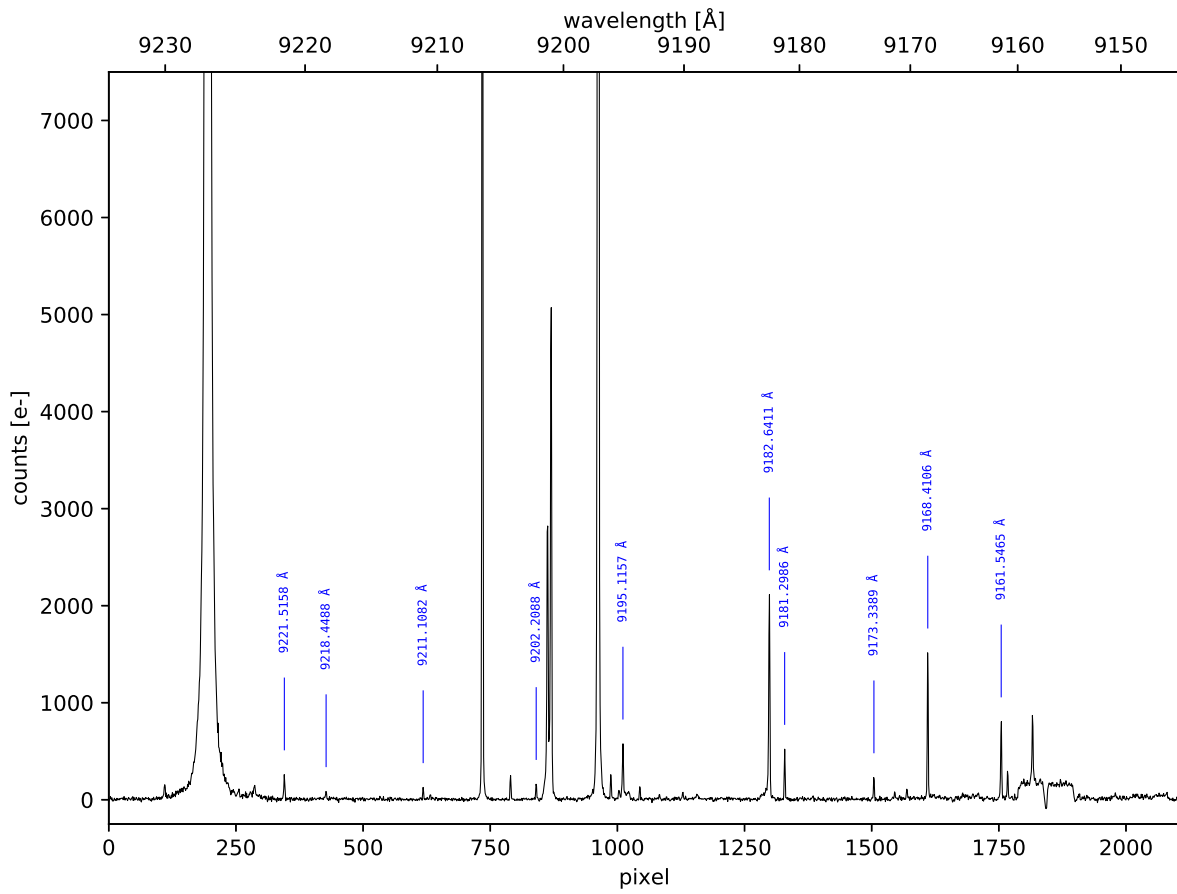


Order 02 ($m = 66$) - blue part

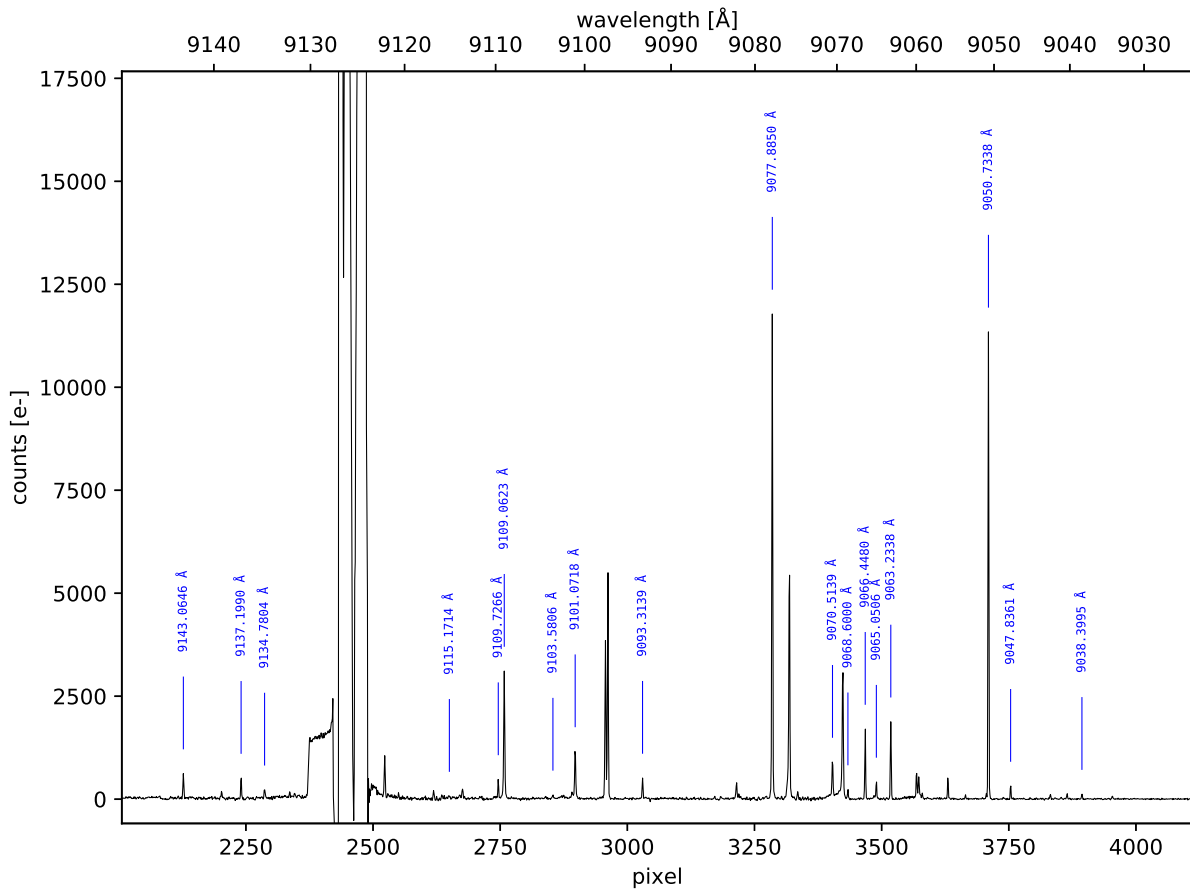


Cure ThAr lamp: Order 03 ($m = 67$; # lines = 28)

Order 03 ($m = 67$) - red part

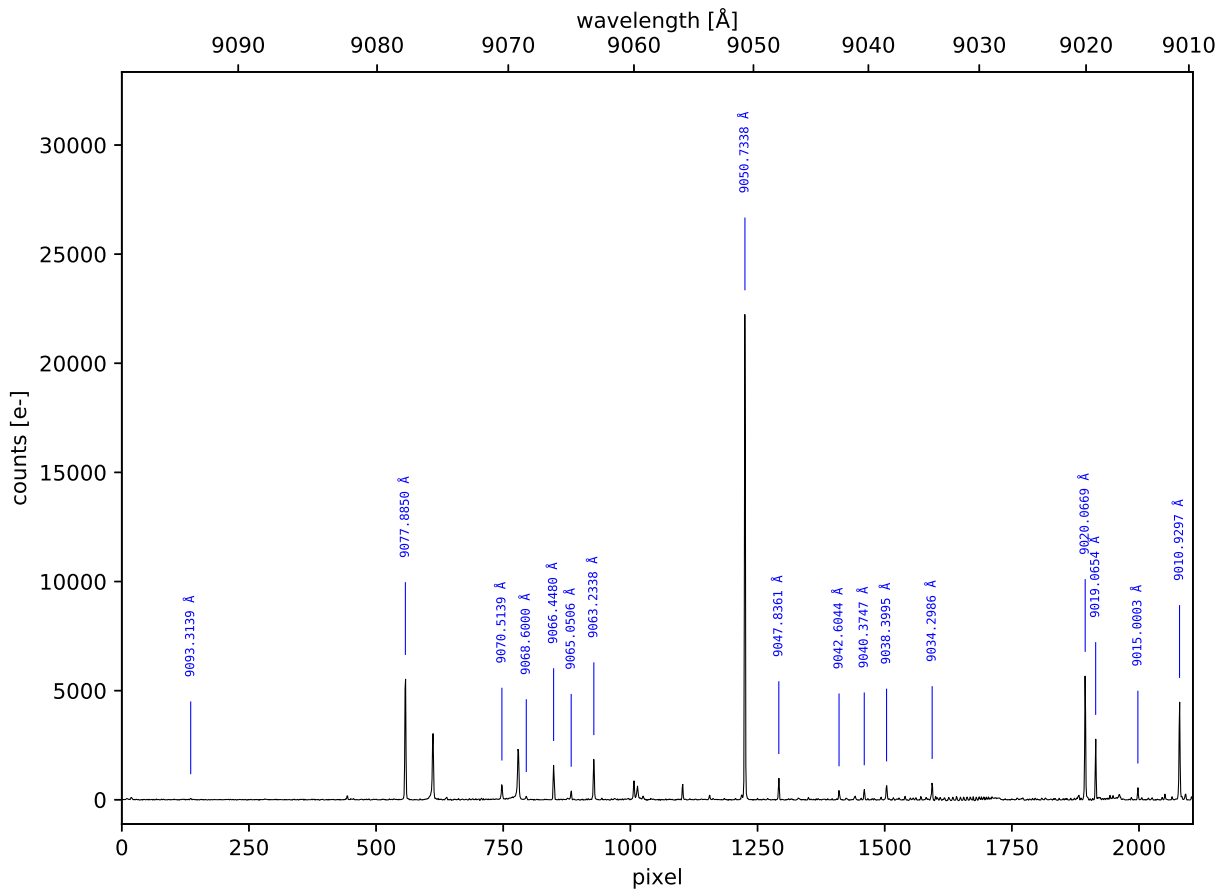


Order 03 ($m = 67$) - blue part

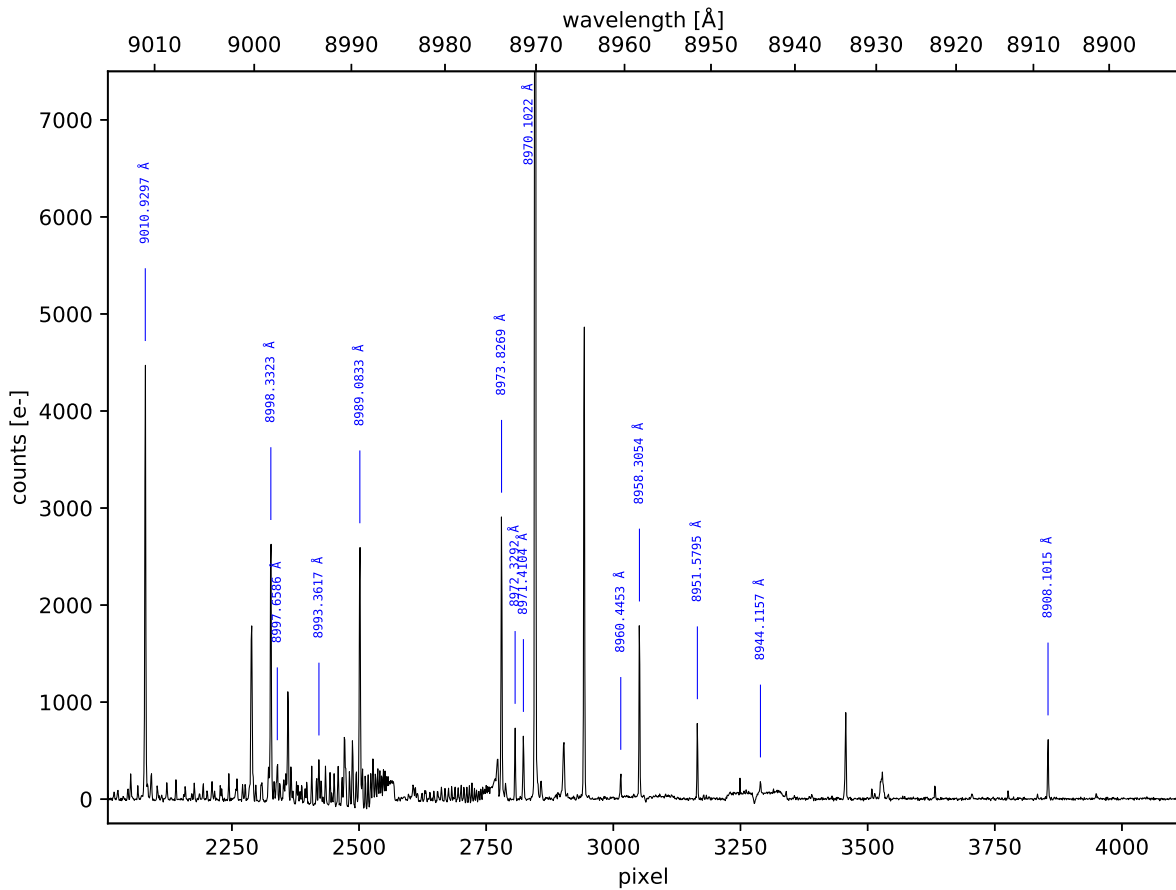


Cure ThAr lamp: Order 04 ($m = 68$; # lines = 30)

Order 04 ($m = 68$) - red part

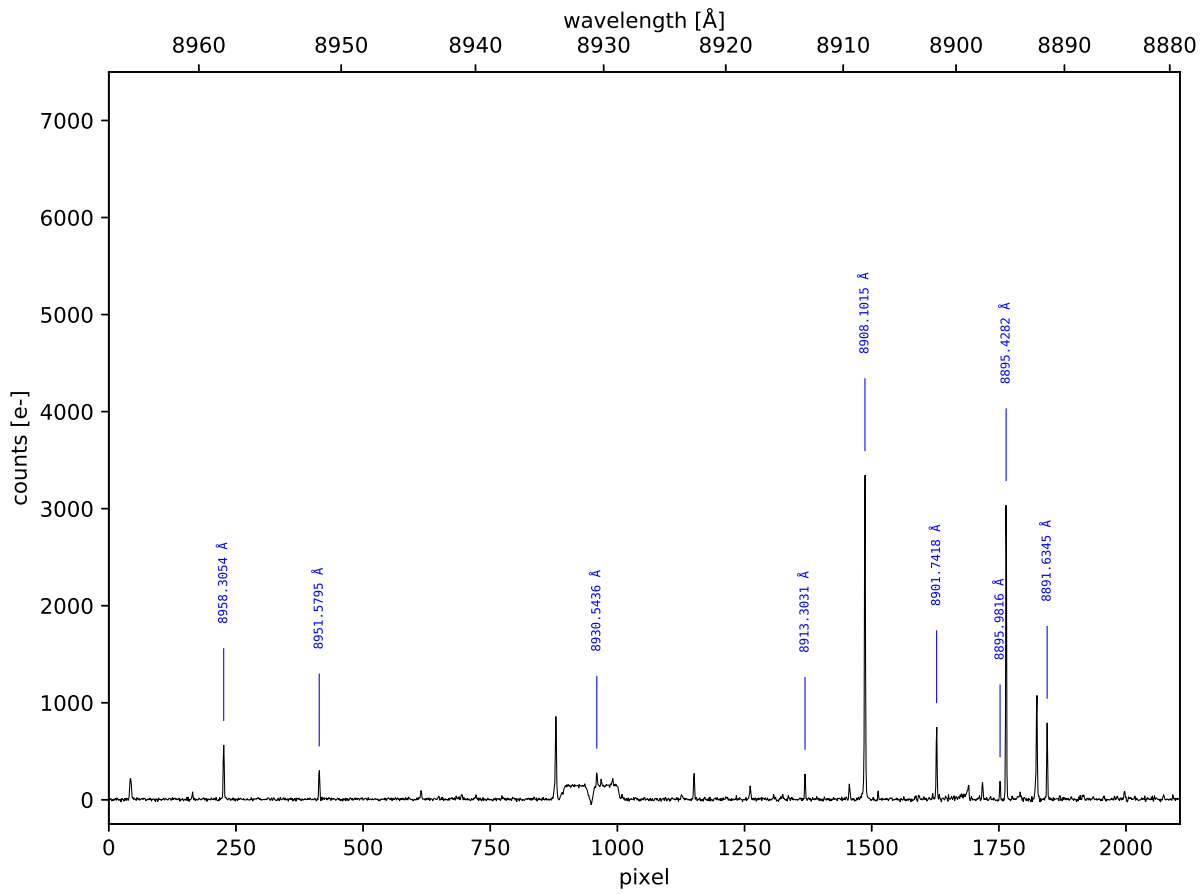


Order 04 ($m = 68$) - blue part

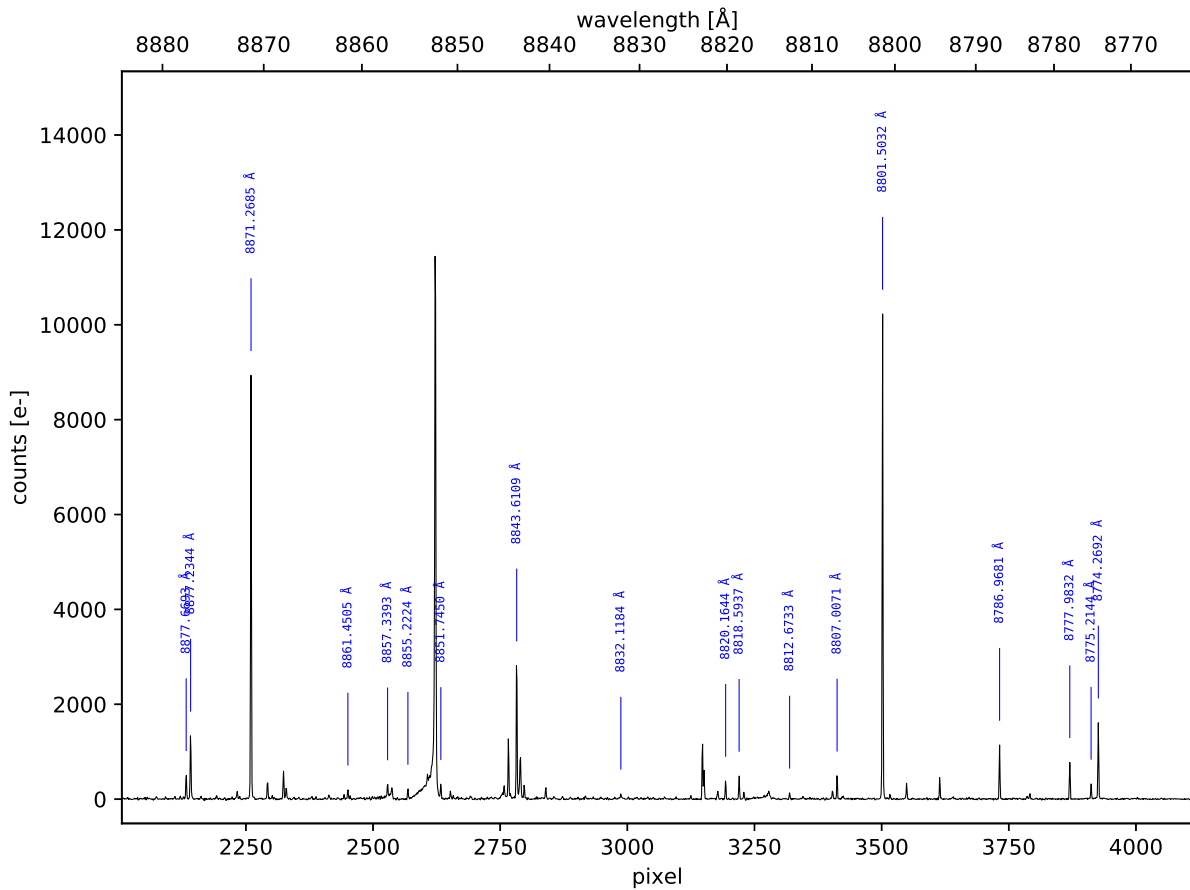


Cure ThAr lamp: Order 05 ($m = 69$; # lines = 27)

Order 05 ($m = 69$) - red part

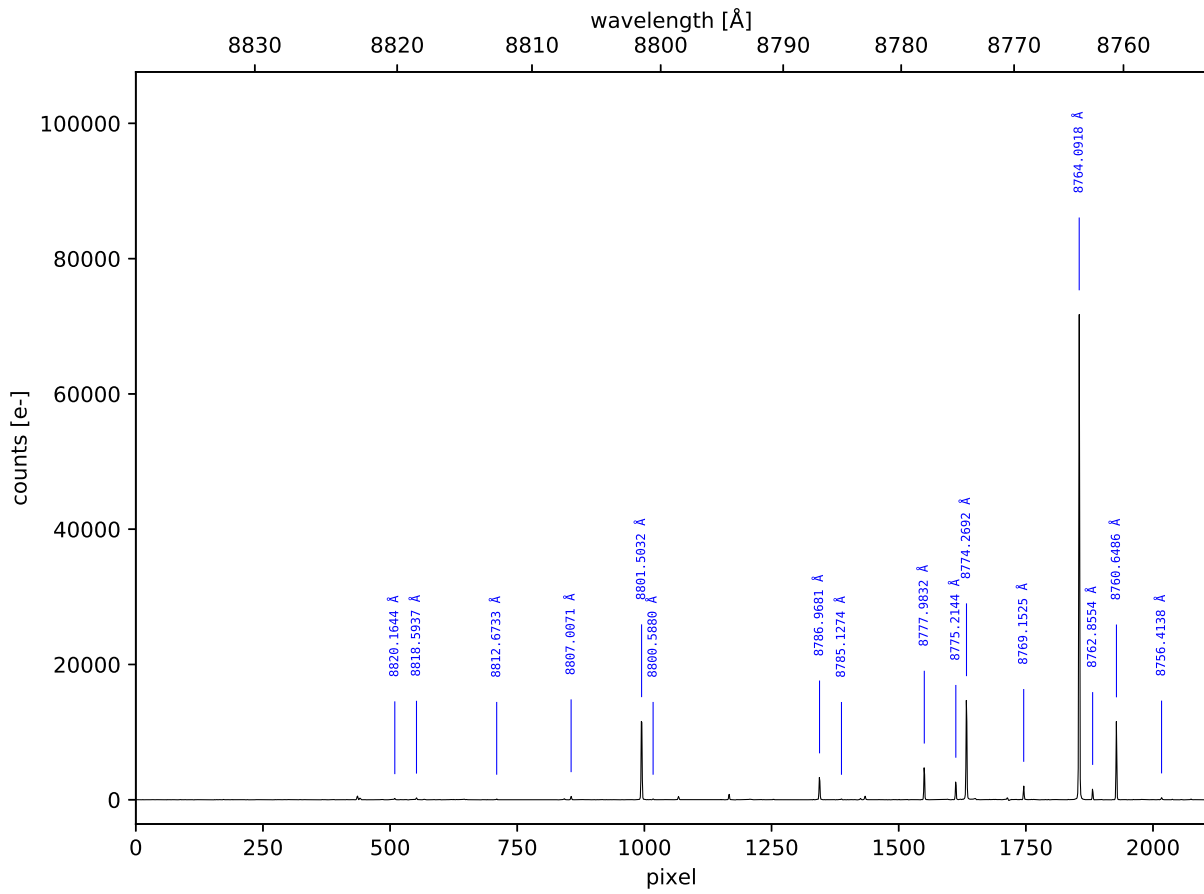


Order 05 ($m = 69$) - blue part

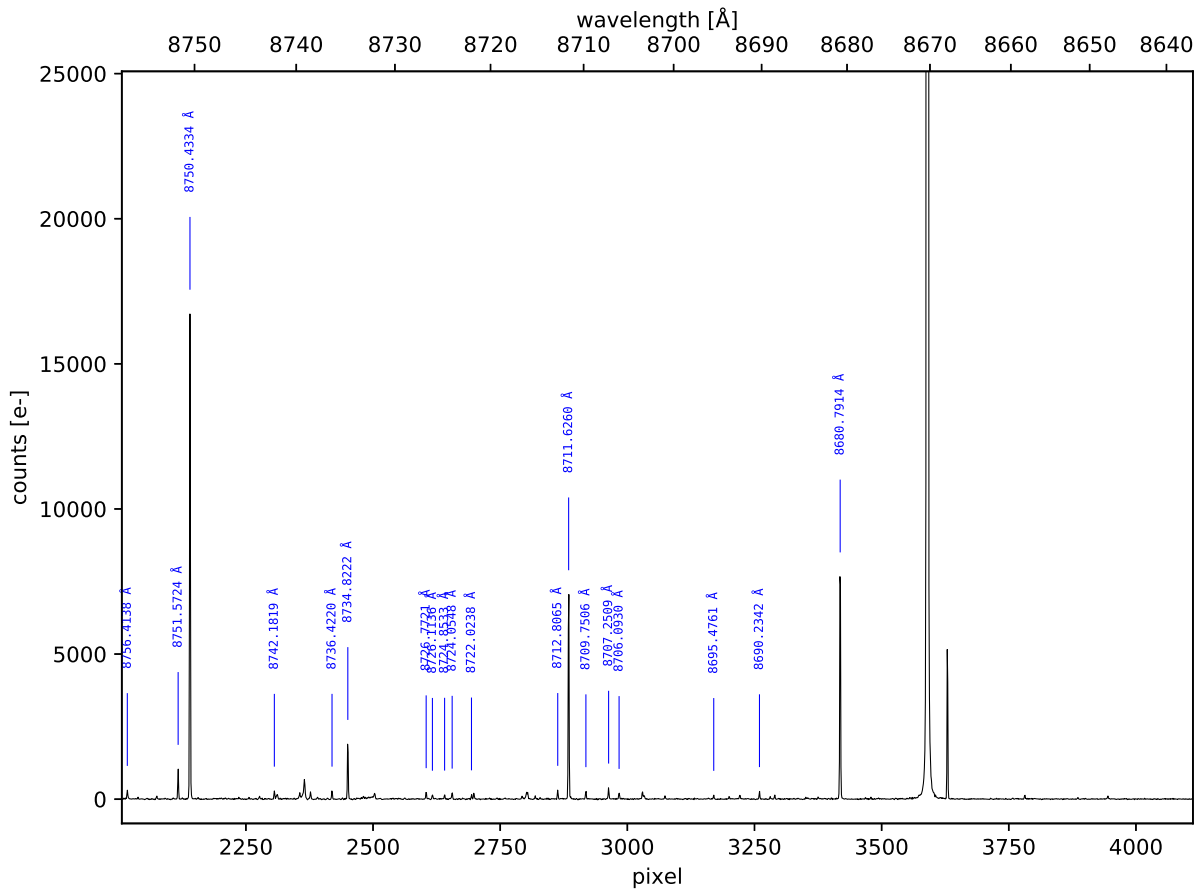


Cure ThAr lamp: Order 06 ($m = 70$; # lines = 34)

Order 06 ($m = 70$) - red part

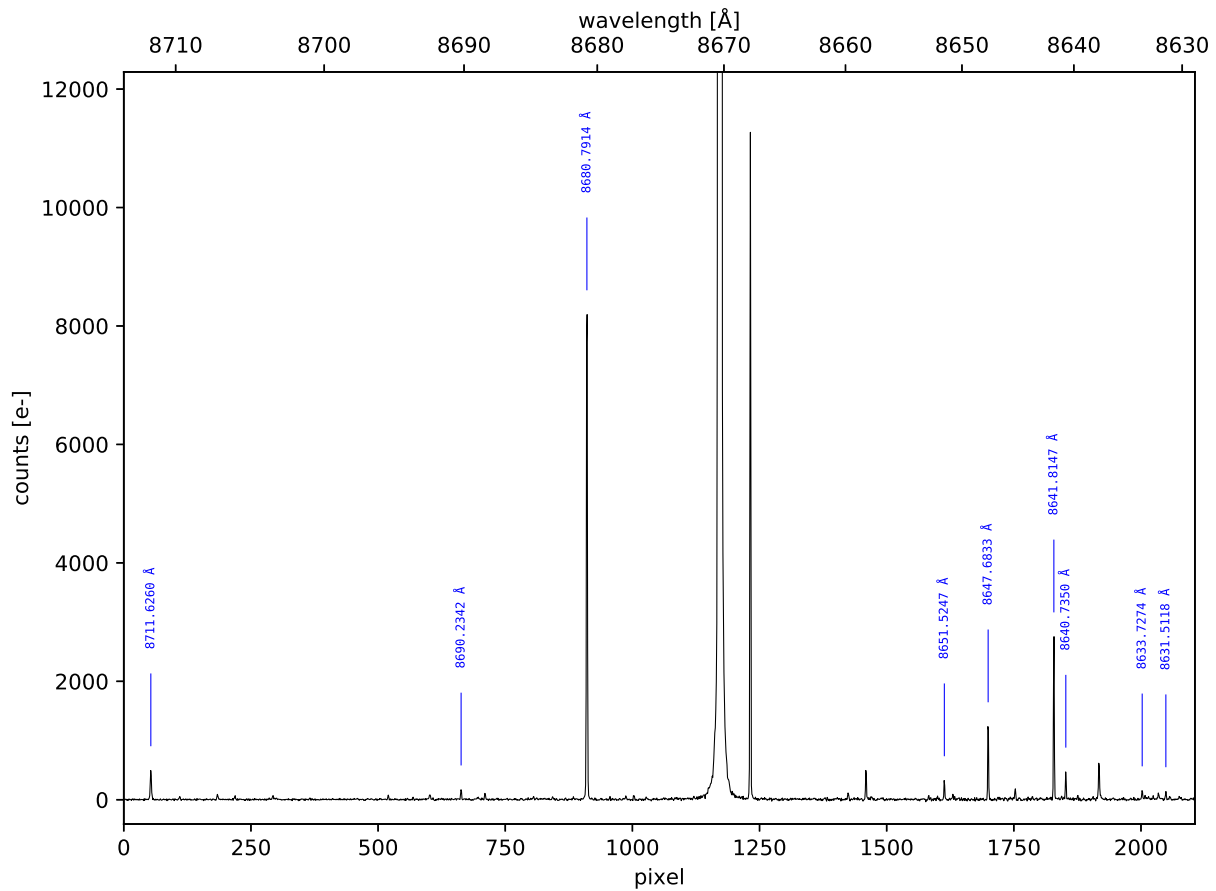


Order 06 ($m = 70$) - blue part

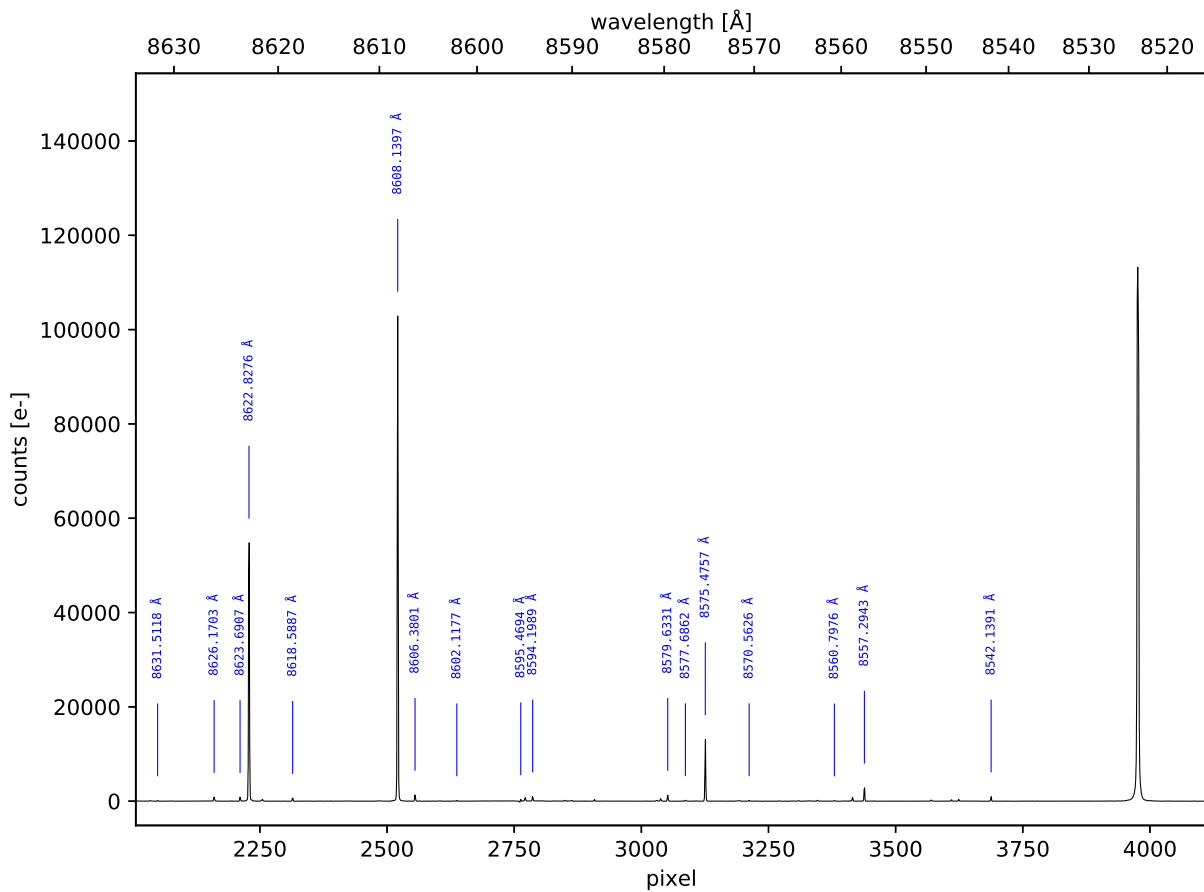


Cure ThAr lamp: Order 07 ($m = 71$; # lines = 25)

Order 07 ($m = 71$) - red part

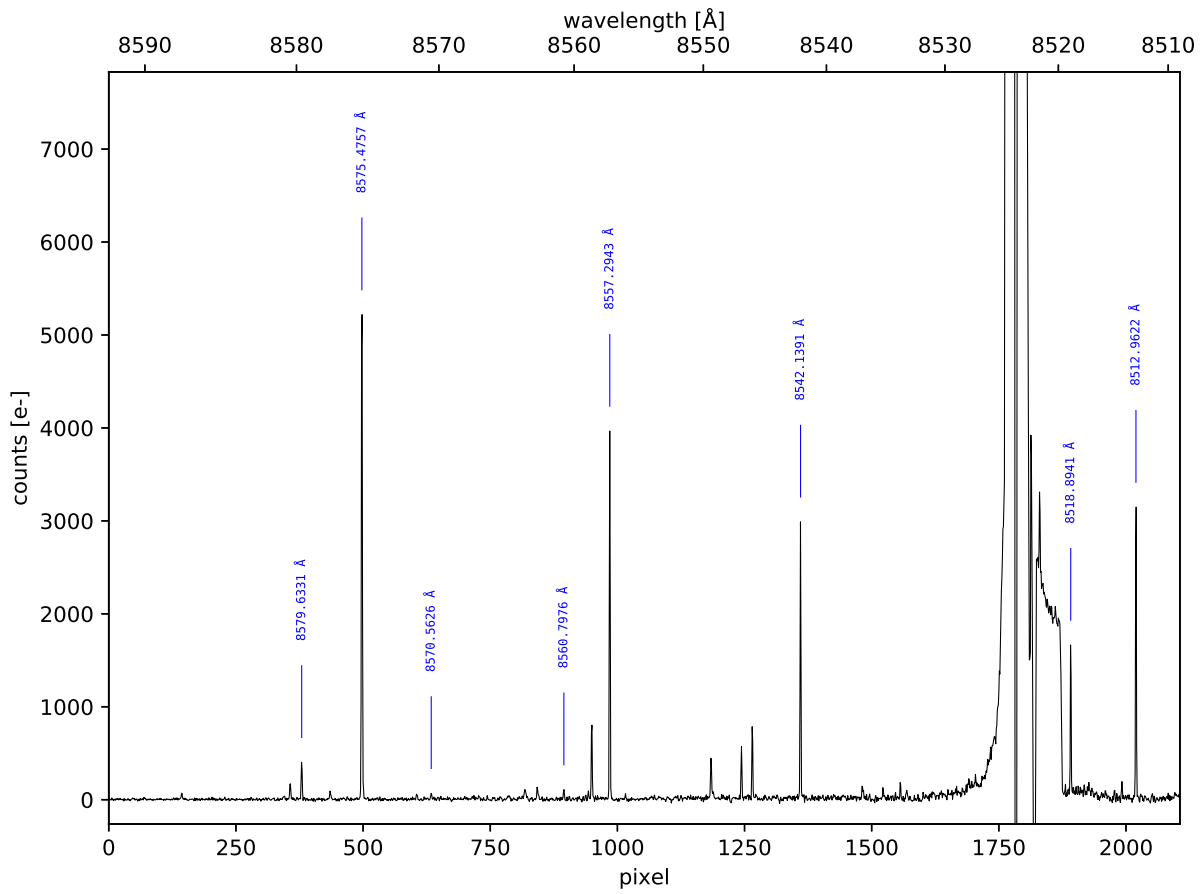


Order 07 ($m = 71$) - blue part

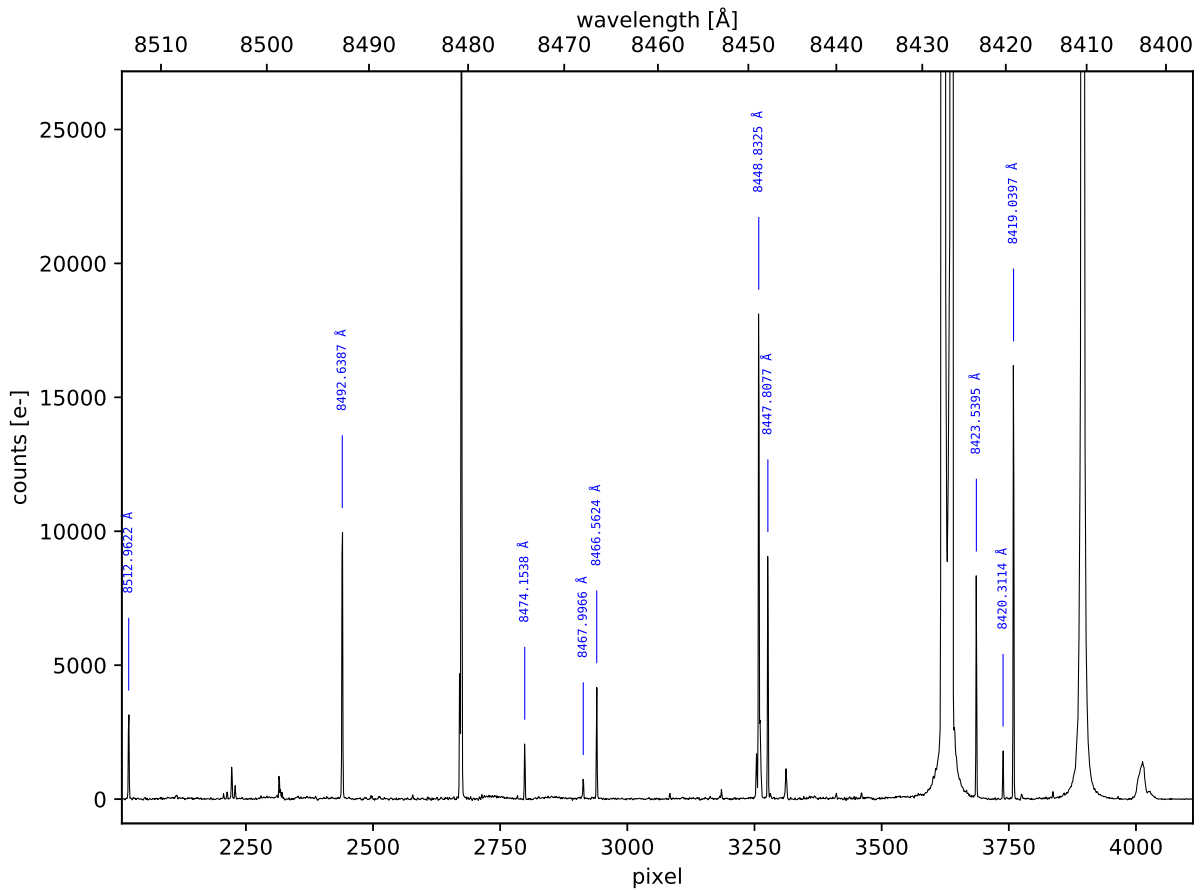


Cure ThAr lamp: Order 08 ($m = 72$; # lines = 17)

Order 08 ($m = 72$) - red part

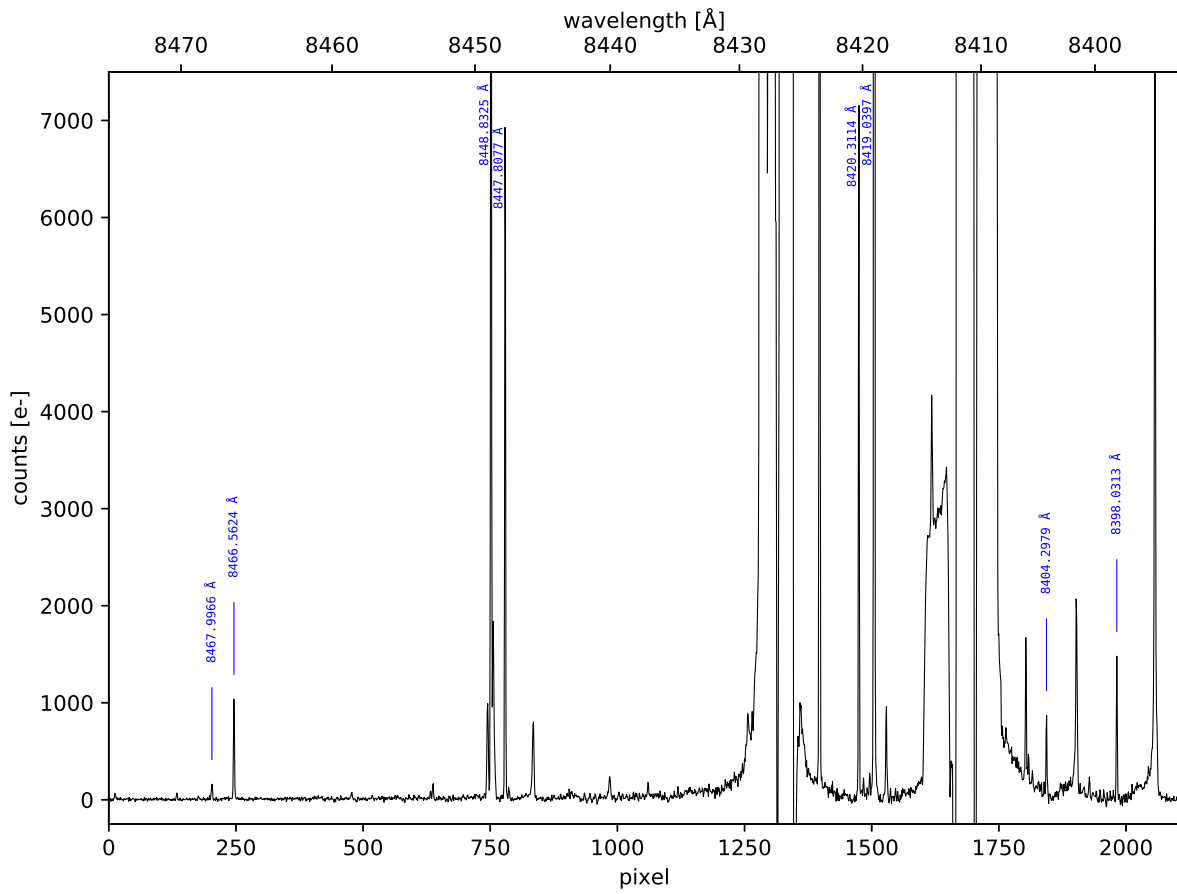


Order 08 ($m = 72$) - blue part

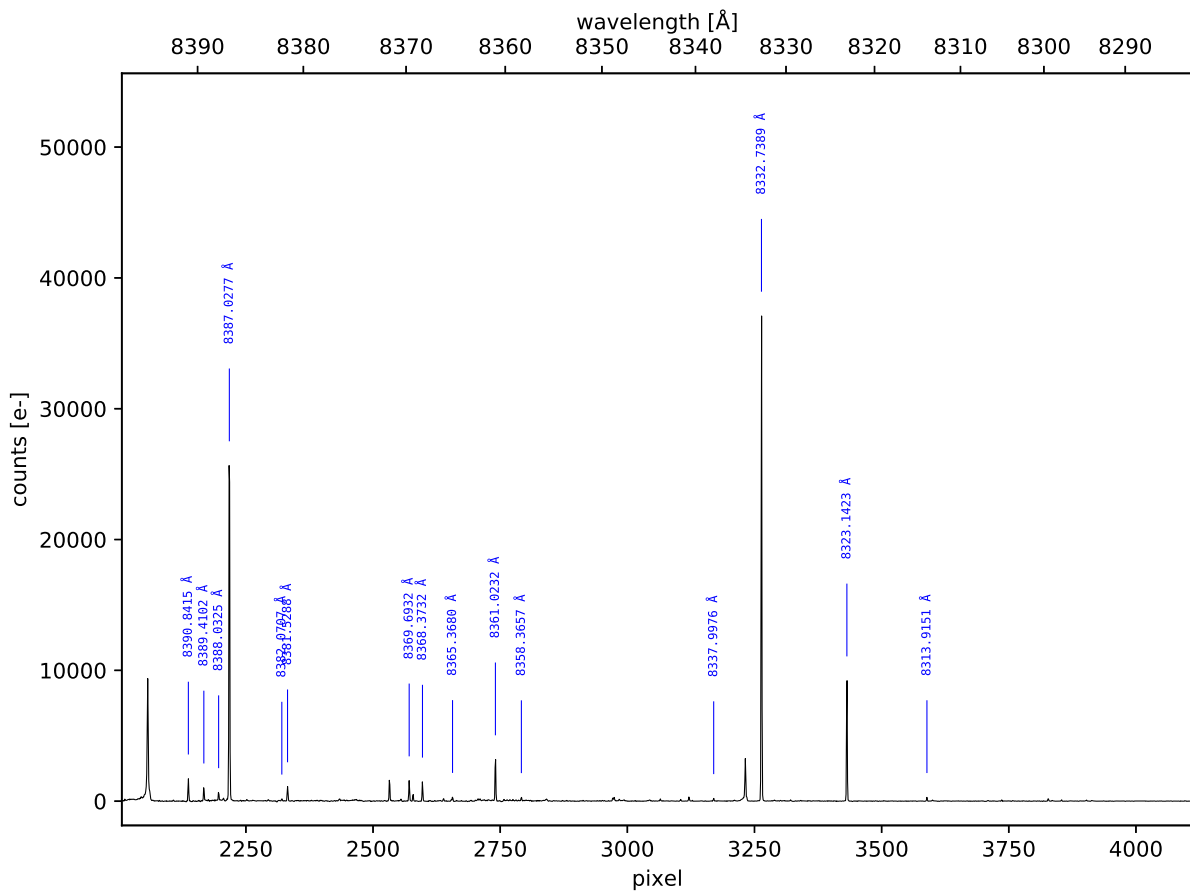


Cure ThAr lamp: Order 09 ($m = 73$; # lines = 23)

Order 09 ($m = 73$) - red part

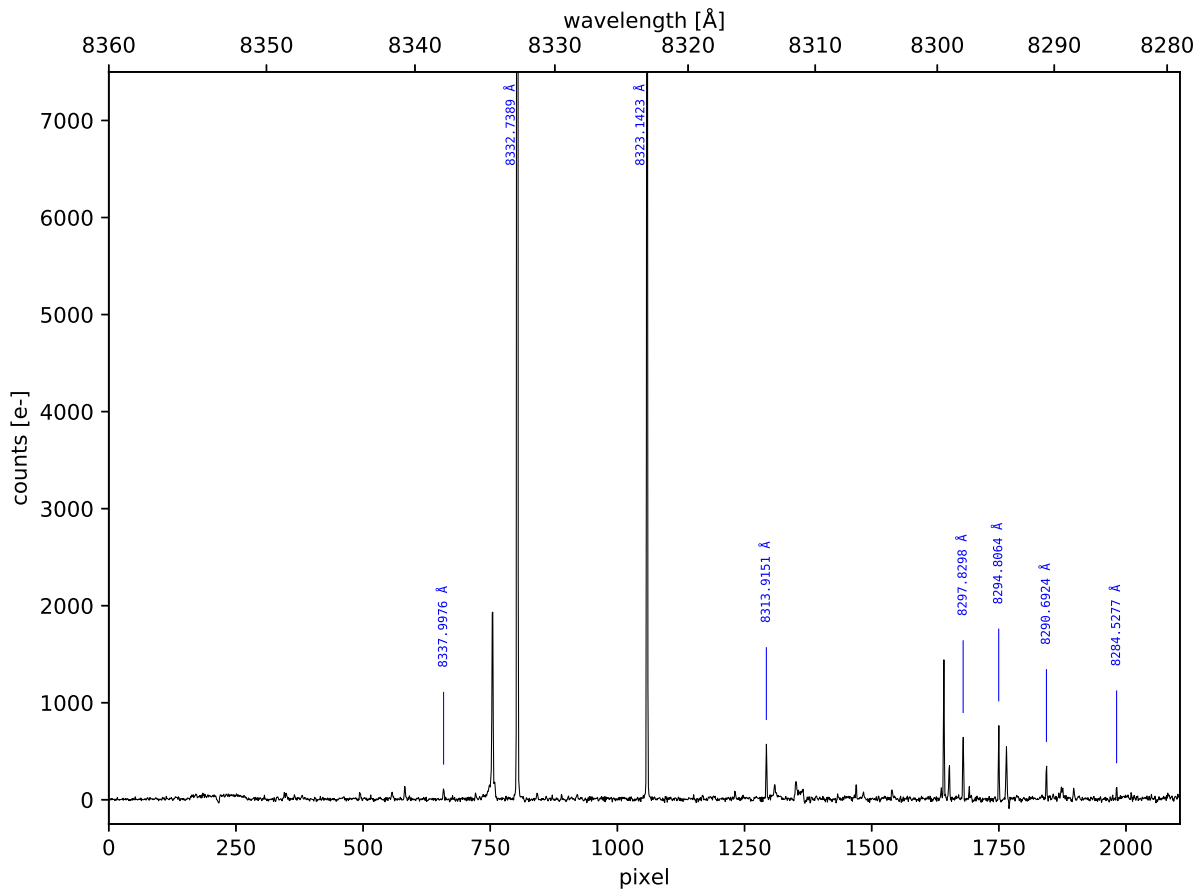


Order 09 ($m = 73$) - blue part

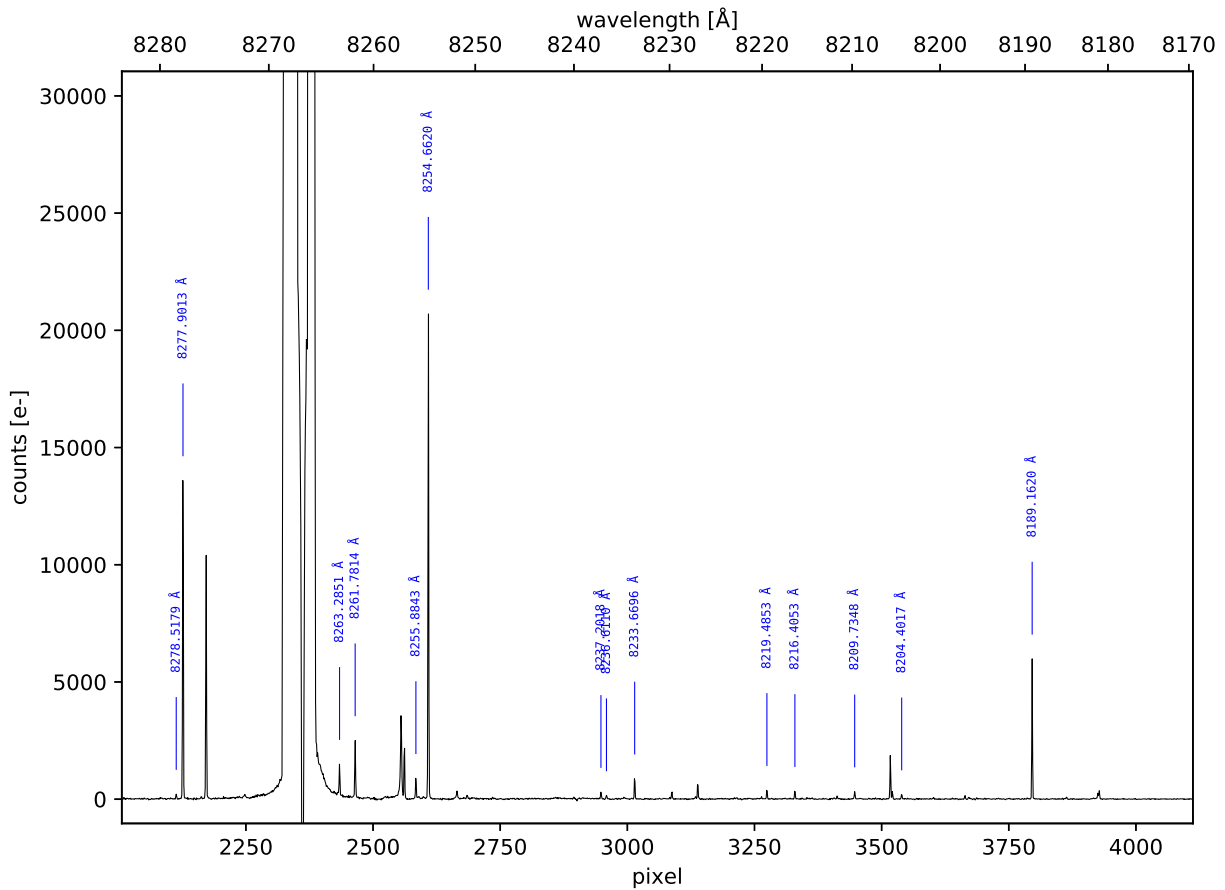


Cure ThAr lamp: Order 10 ($m = 74$; # lines = 22)

Order 10 ($m = 74$) - red part

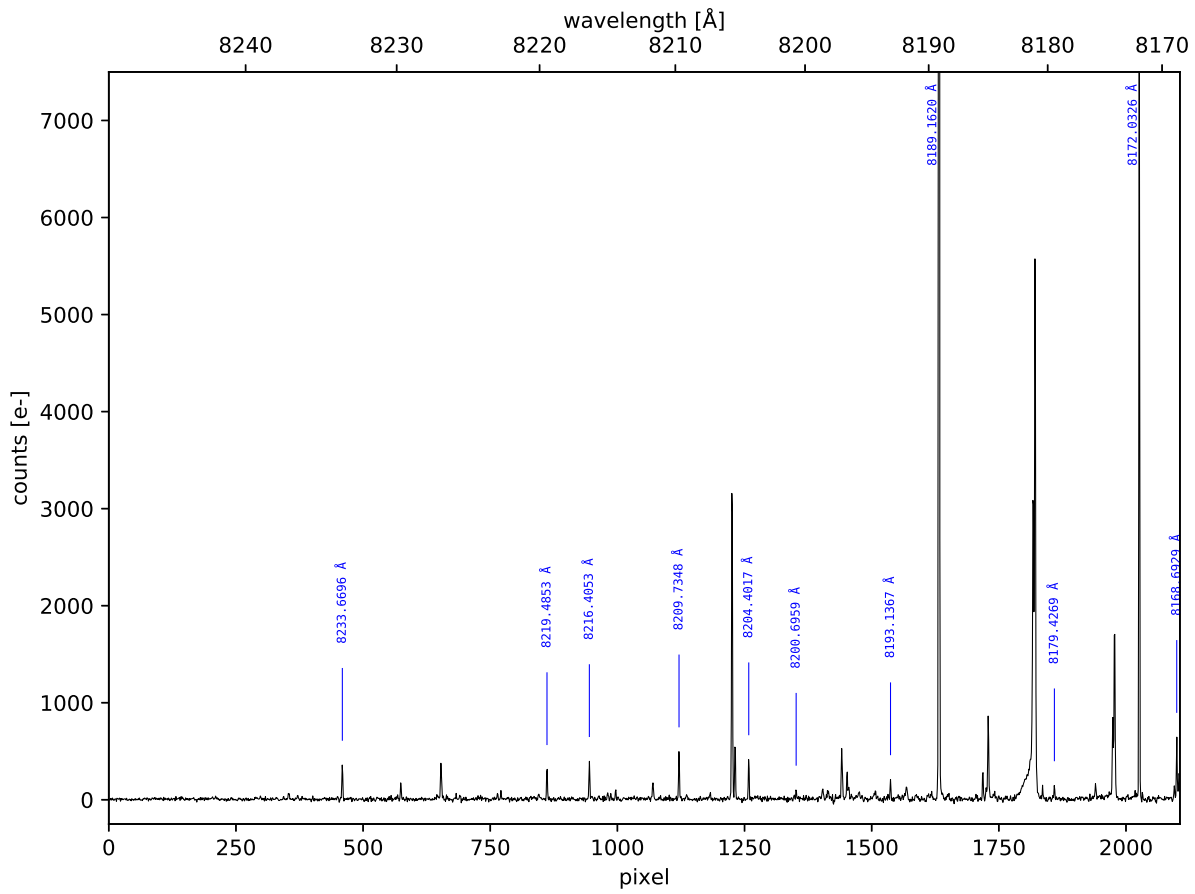


Order 10 ($m = 74$) - blue part

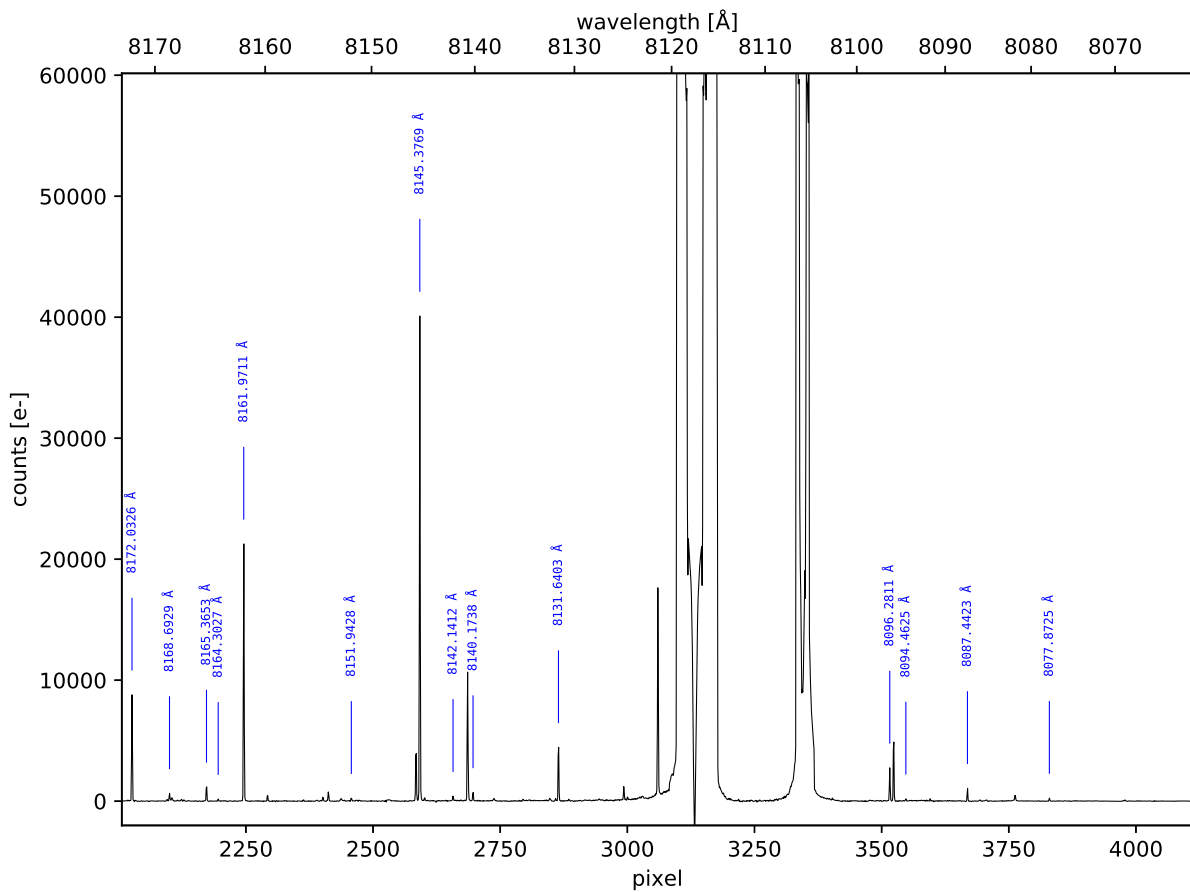


Cure ThAr lamp: Order 11 ($m = 75$; # lines = 23)

Order 11 ($m = 75$) - red part

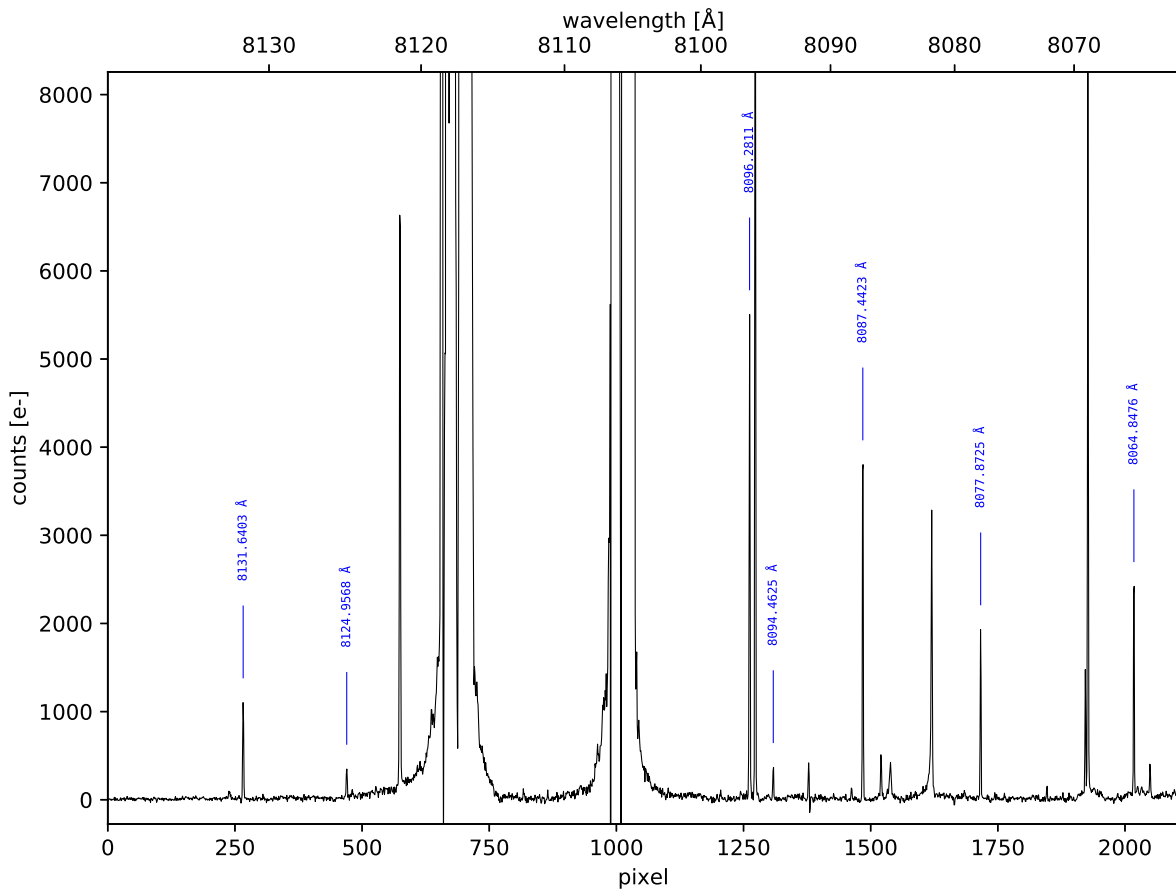


Order 11 ($m = 75$) - blue part

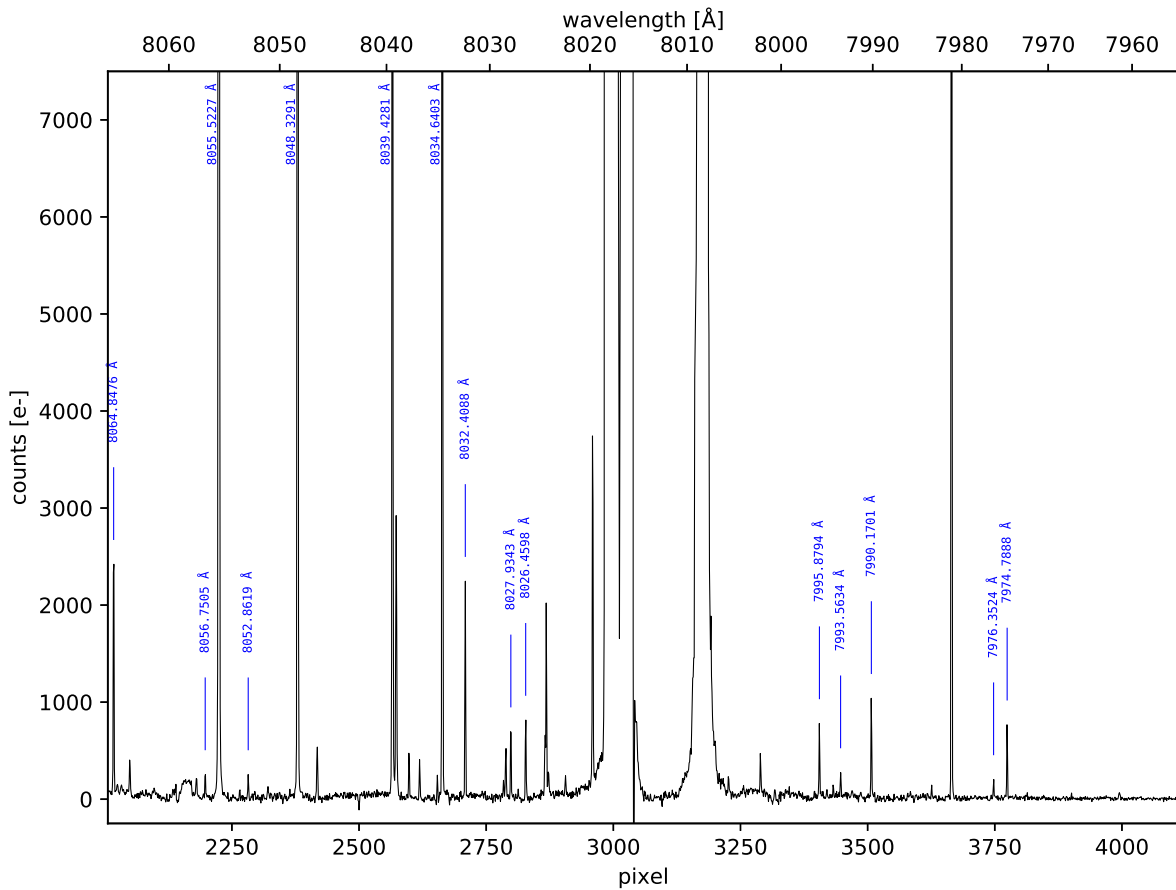


Cure ThAr lamp: Order 12 ($m = 76$; # lines = 21)

Order 12 ($m = 76$) - red part

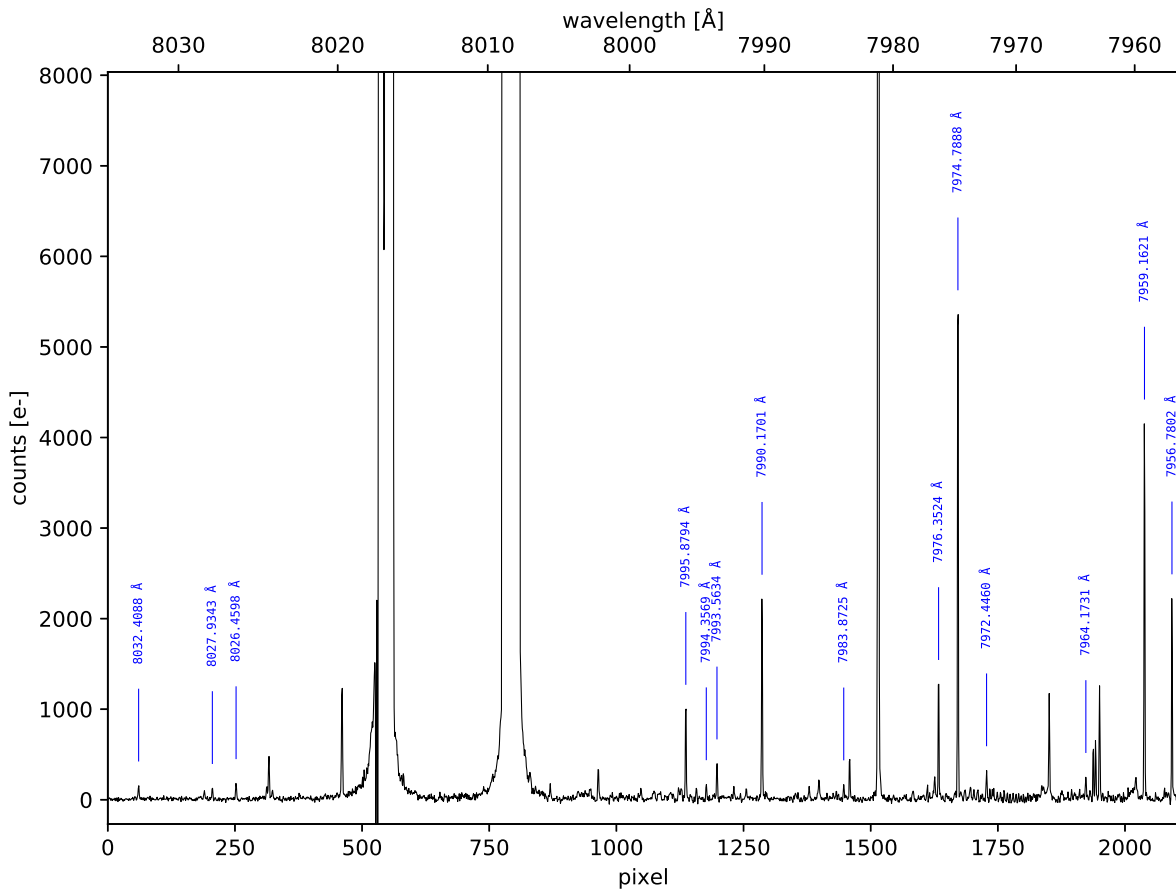


Order 12 ($m = 76$) - blue part

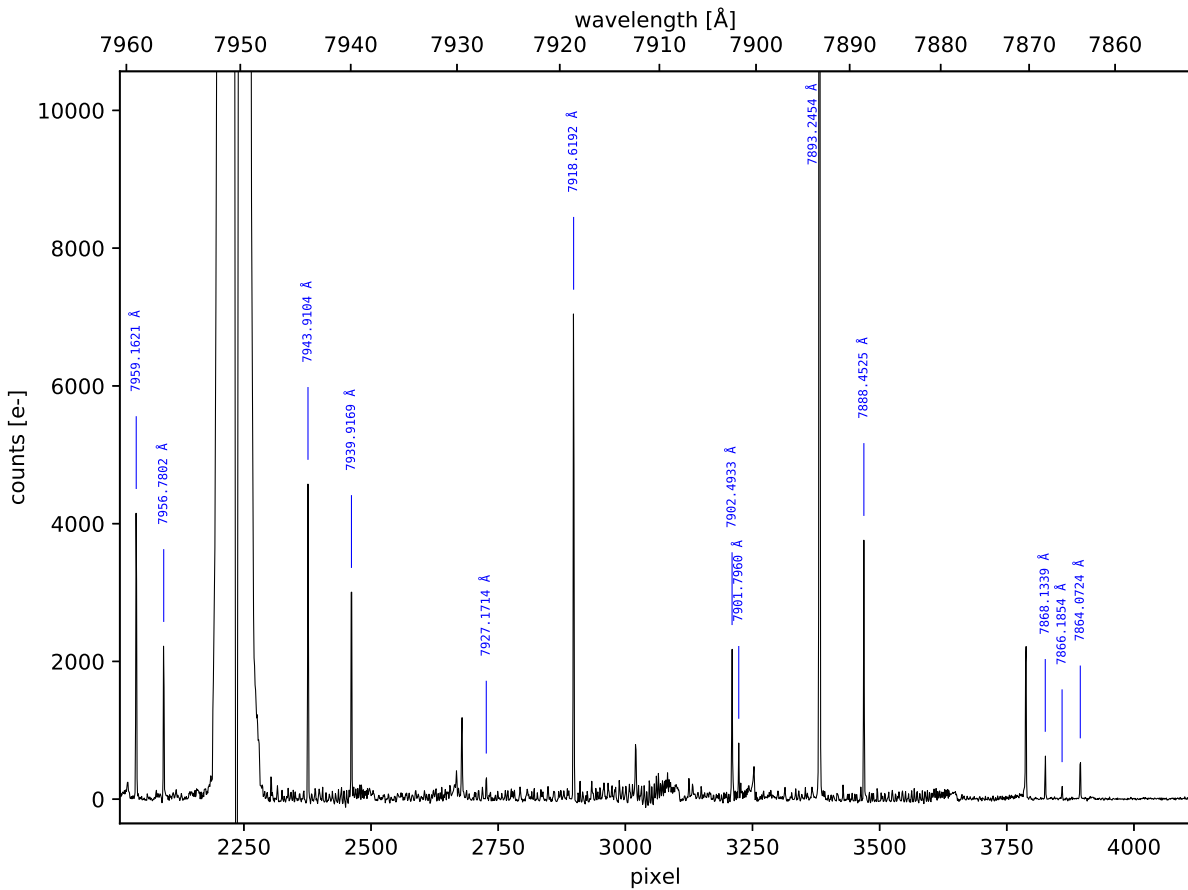


Cure ThAr lamp: Order 13 ($m = 77$; # lines = 25)

Order 13 ($m = 77$) - red part

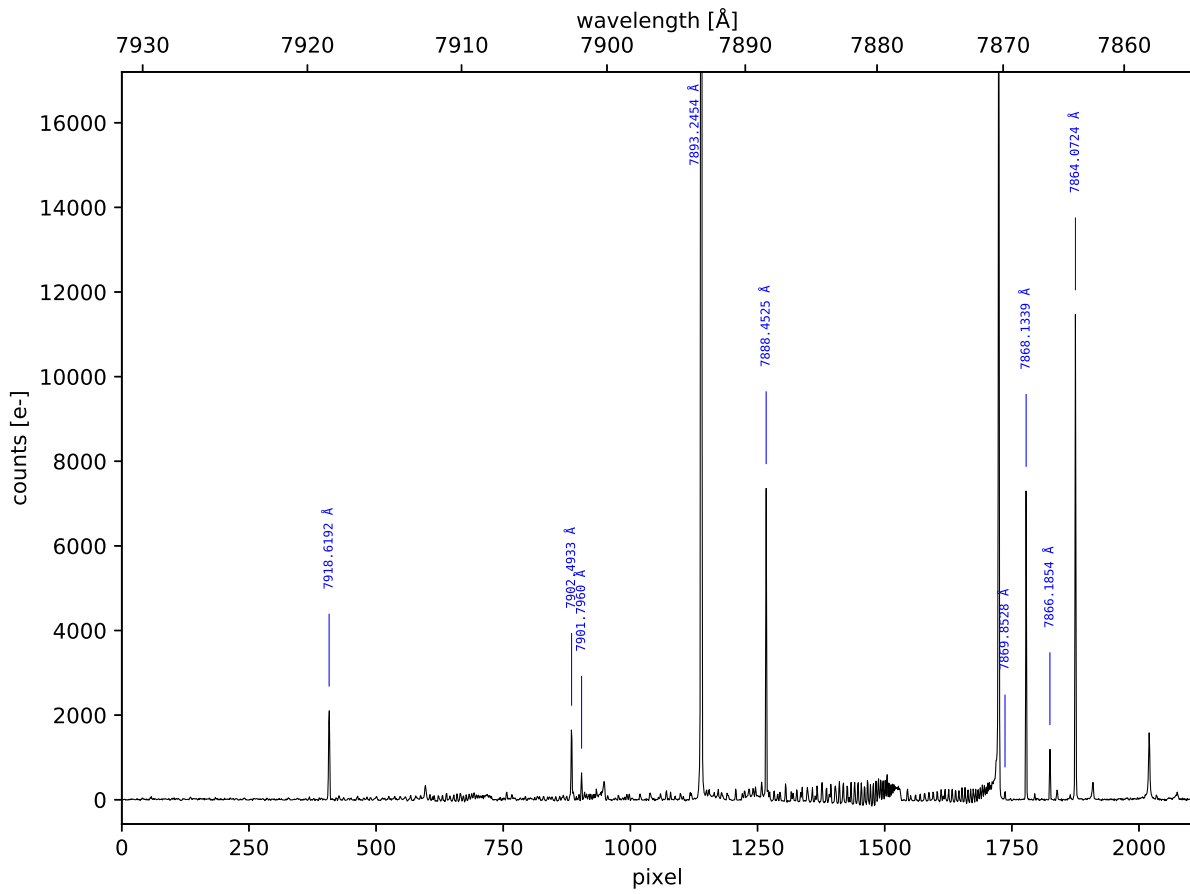


Order 13 ($m = 77$) - blue part

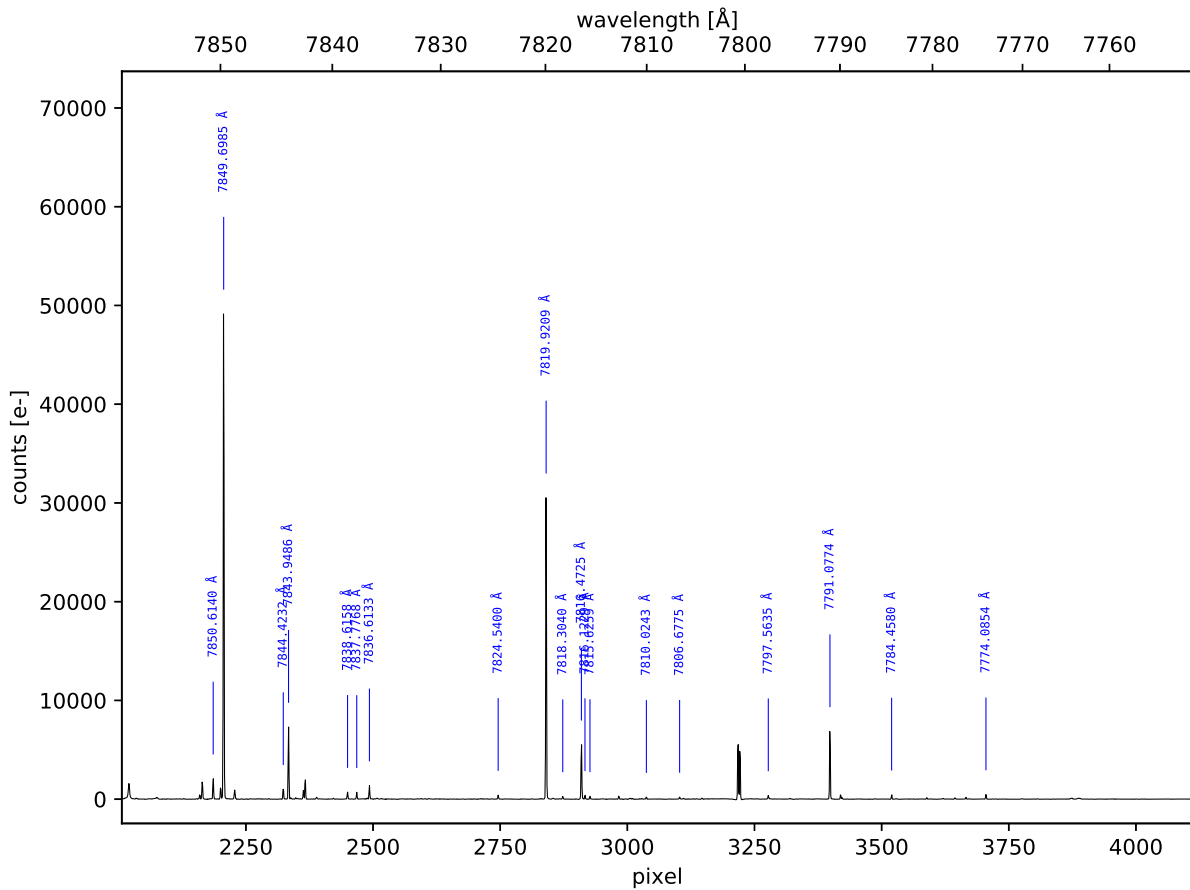


Cure ThAr lamp: Order 14 ($m = 78$; # lines = 28)

Order 14 ($m = 78$) - red part

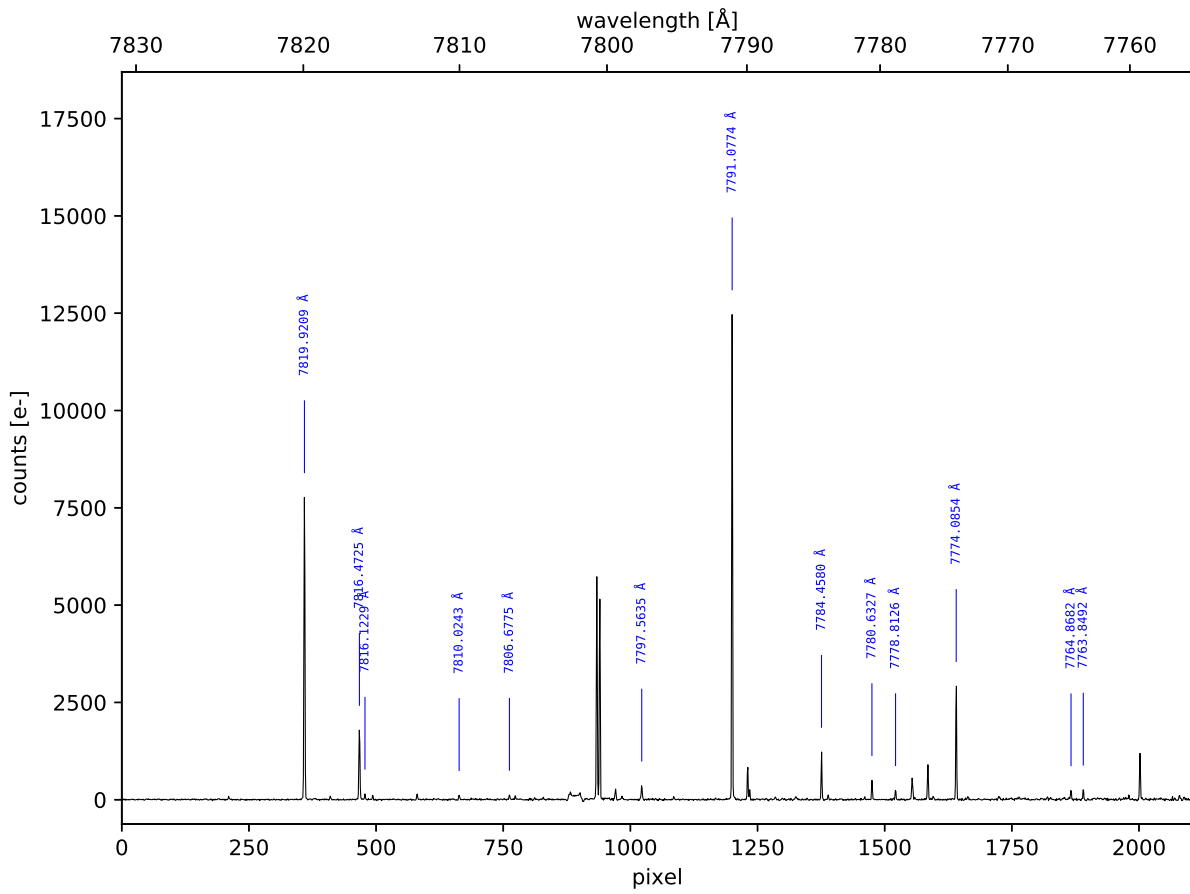


Order 14 ($m = 78$) - blue part

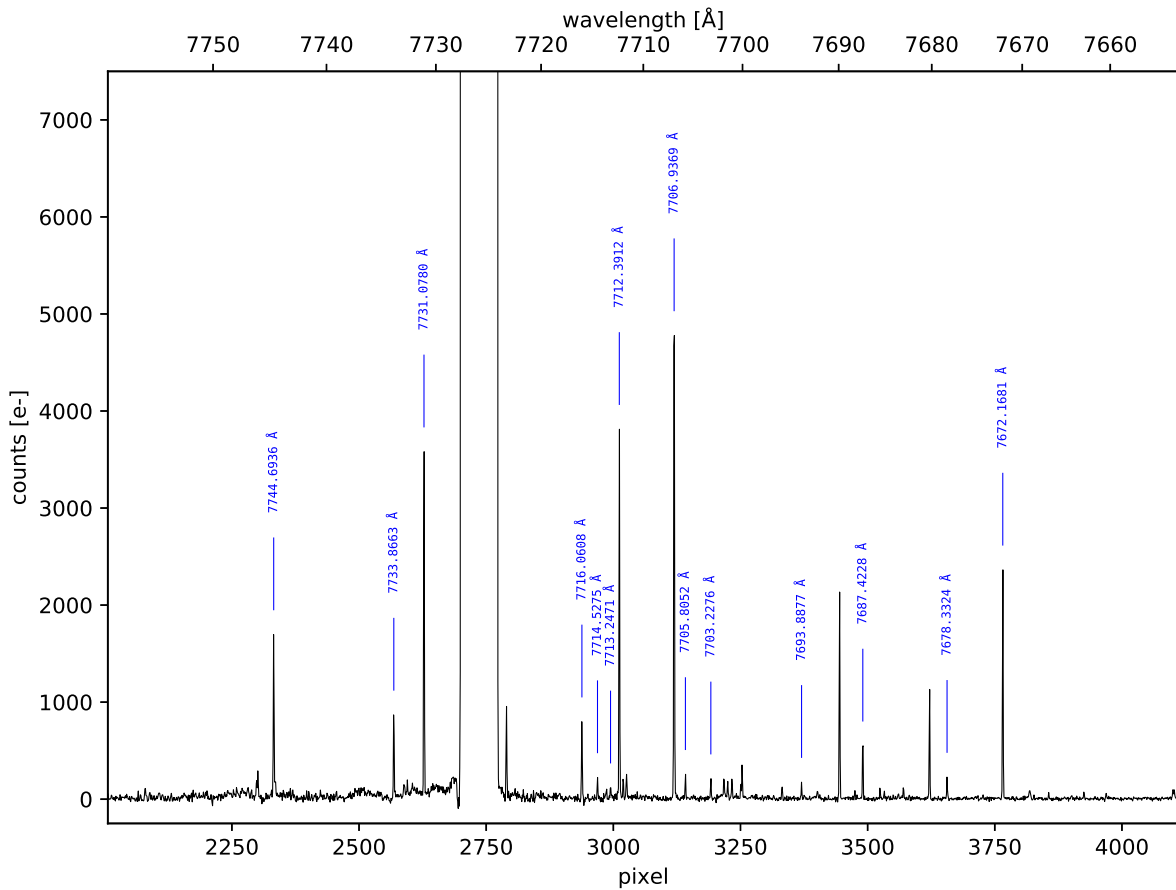


Cure ThAr lamp: Order 15 ($m = 79$; # lines = 27)

Order 15 ($m = 79$) - red part

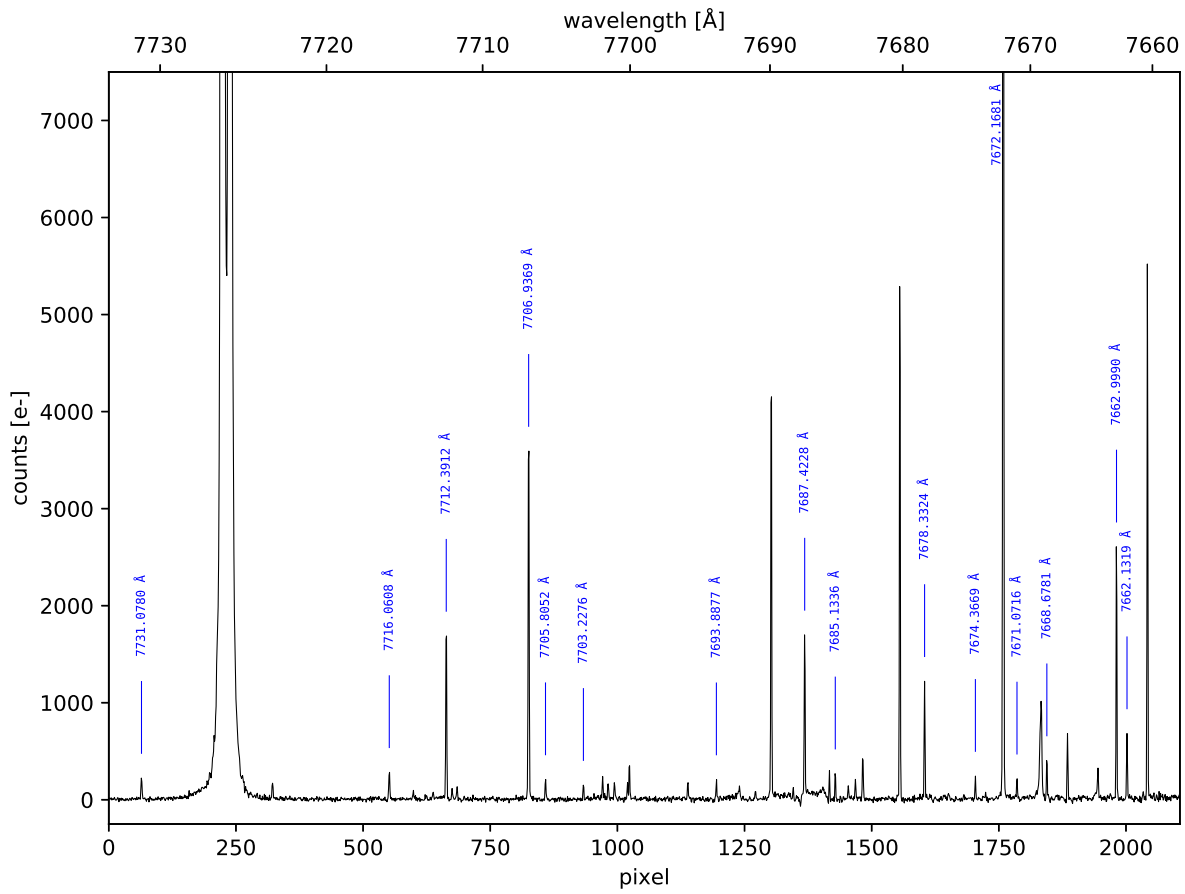


Order 15 ($m = 79$) - blue part

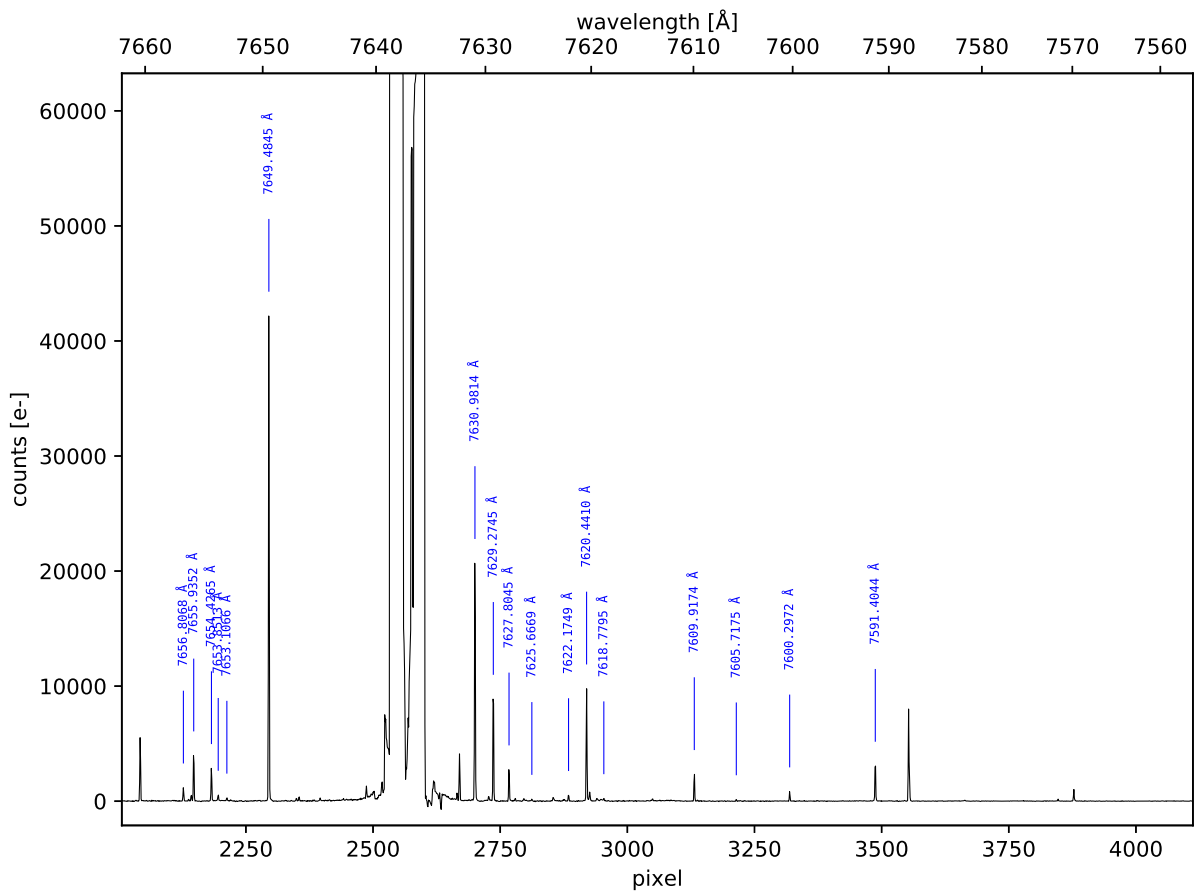


Cure ThAr lamp: Order 16 ($m = 80$; # lines = 33)

Order 16 ($m = 80$) - red part

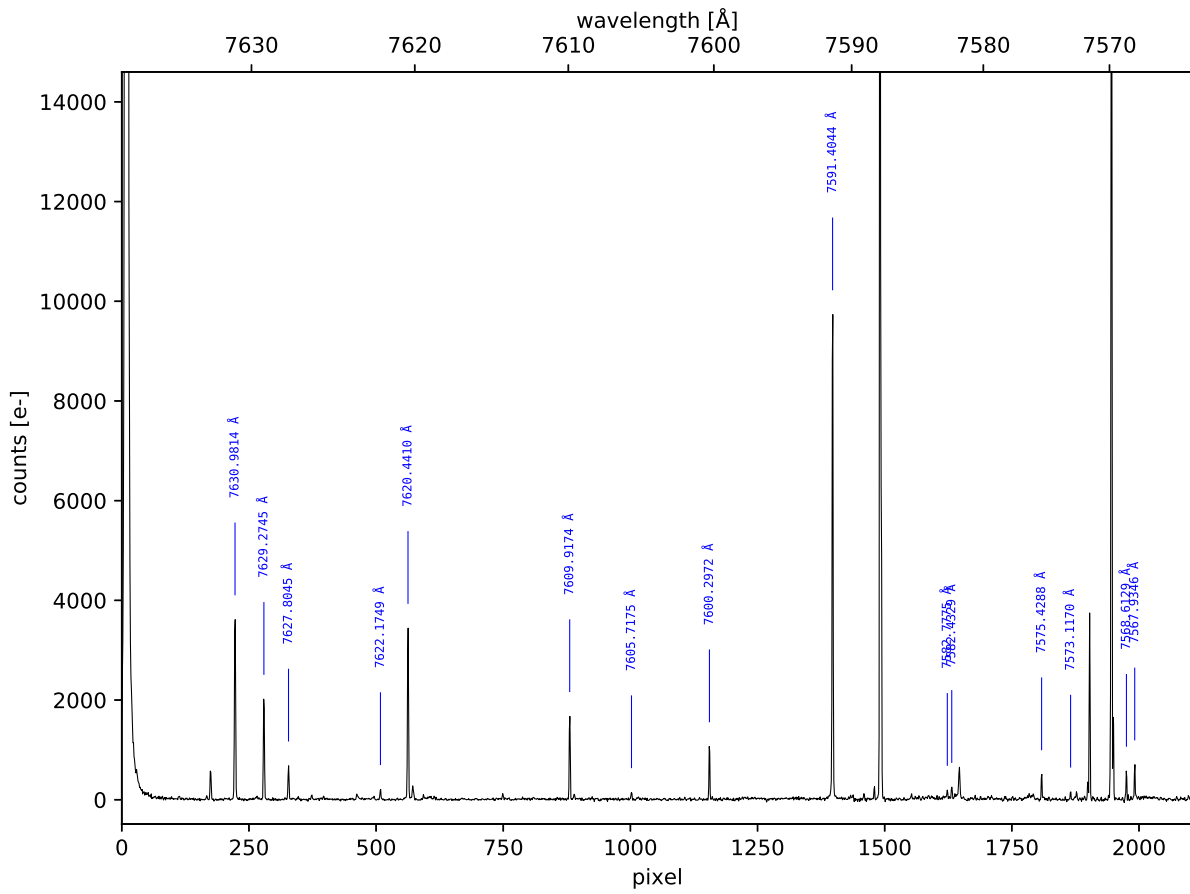


Order 16 ($m = 80$) - blue part

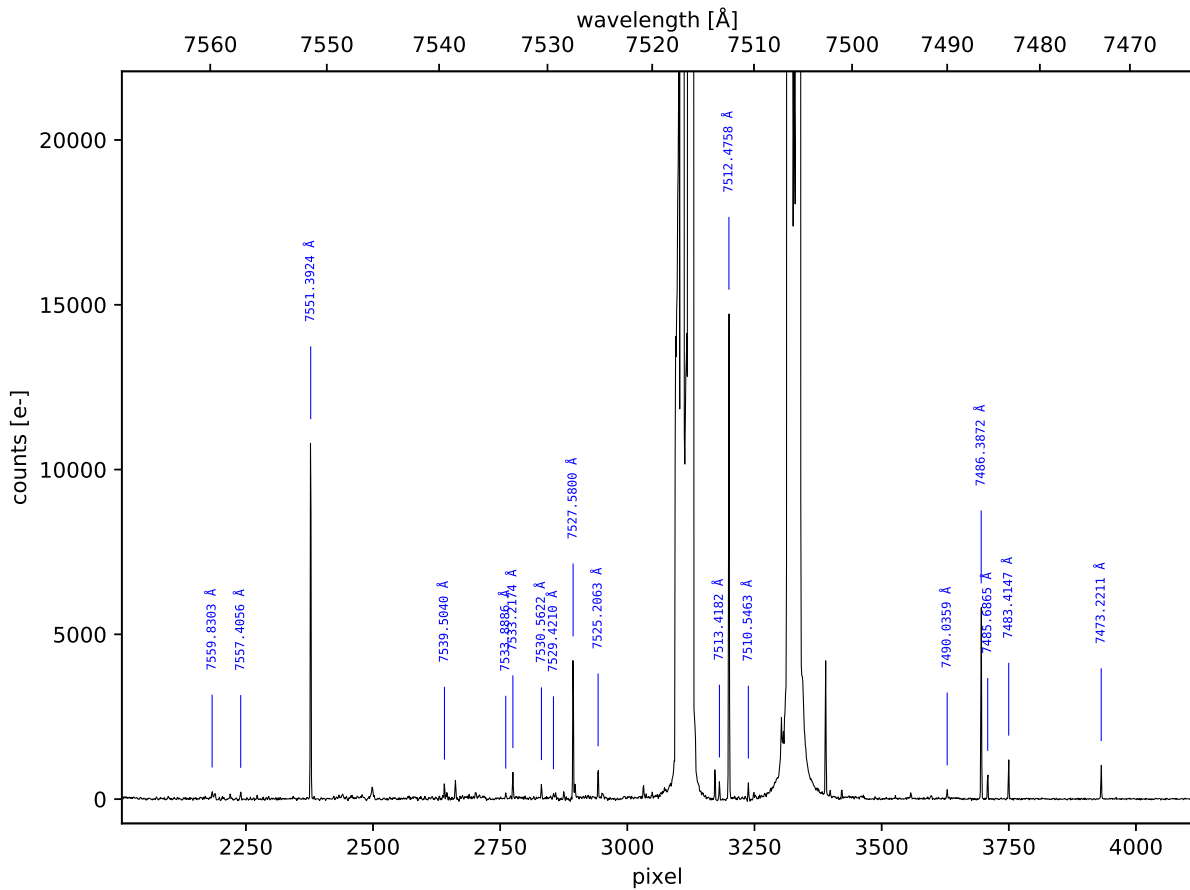


Cure ThAr lamp: Order 17 ($m = 81$; # lines = 33)

Order 17 ($m = 81$) - red part

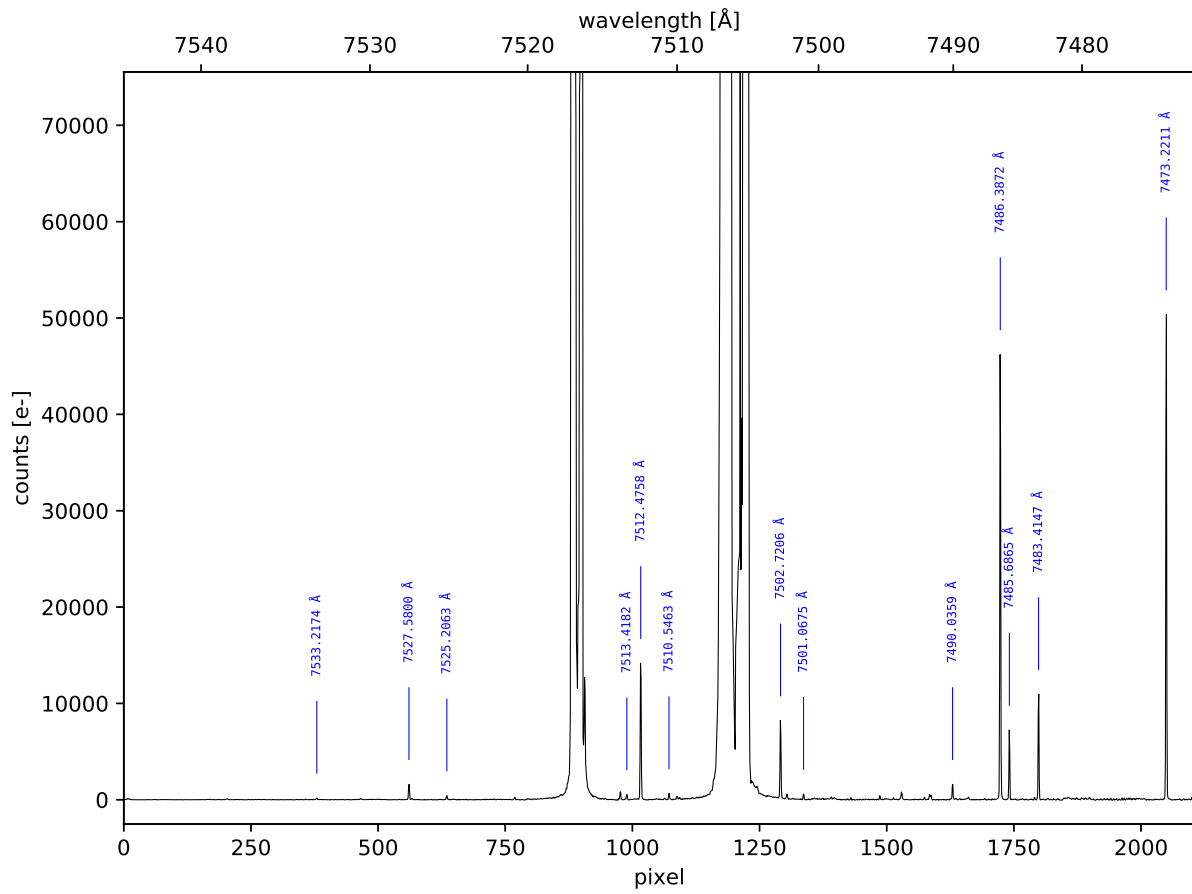


Order 17 ($m = 81$) - blue part

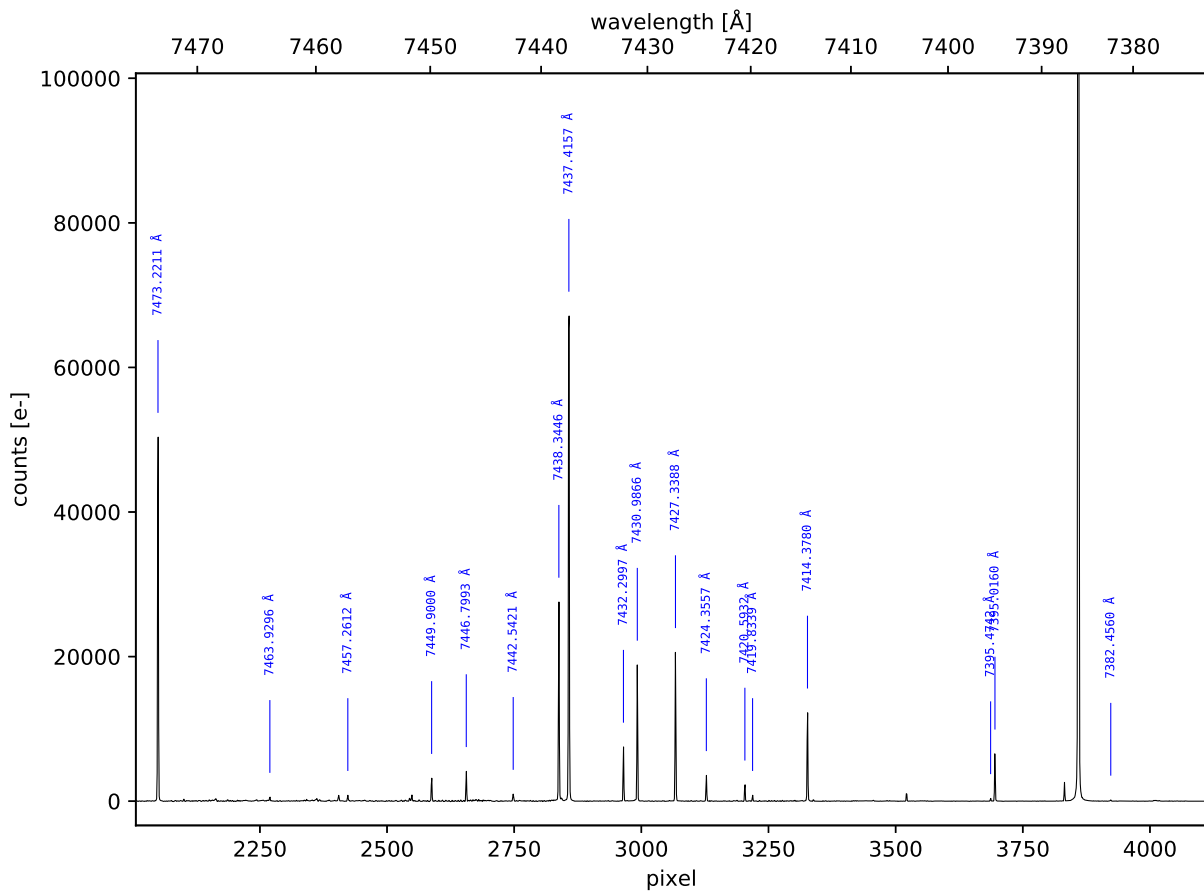


Cure ThAr lamp: Order 18 ($m = 82$; # lines = 30)

Order 18 ($m = 82$) - red part

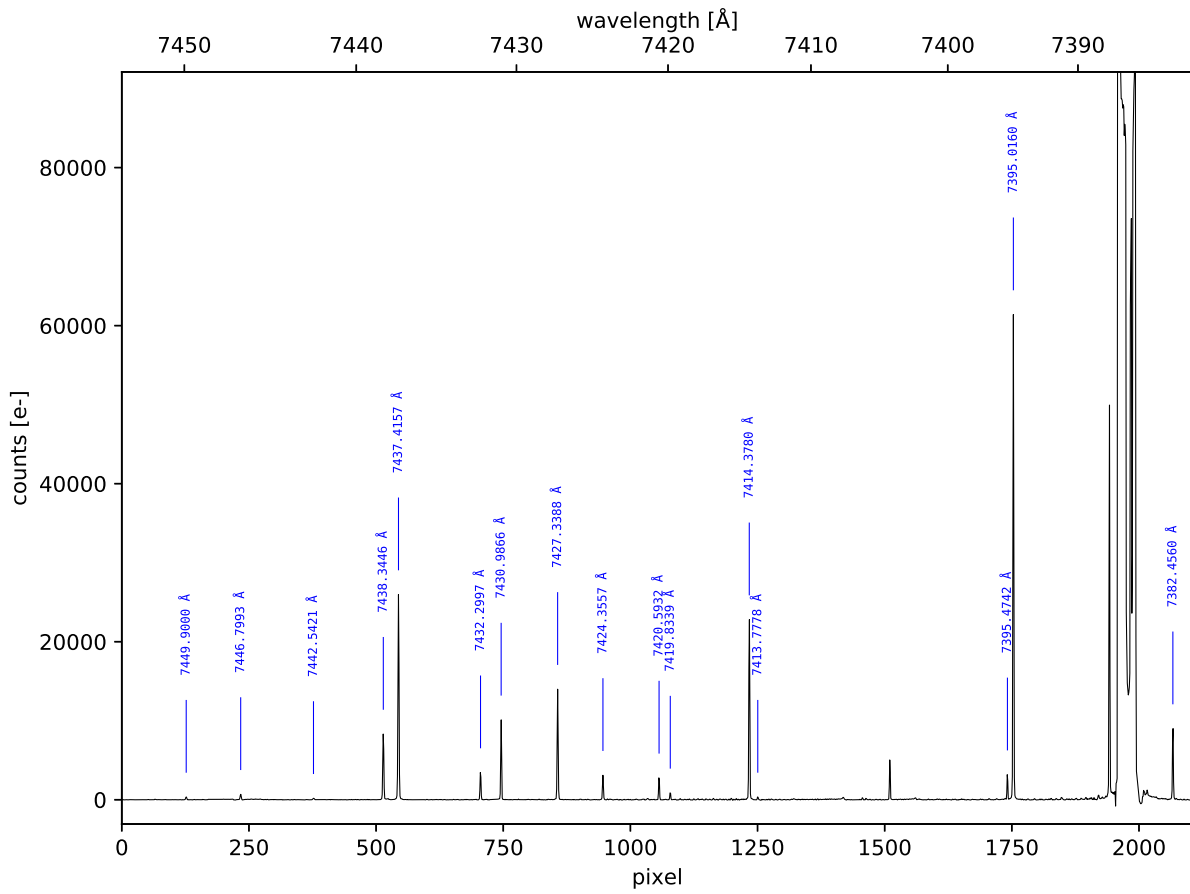


Order 18 ($m = 82$) - blue part

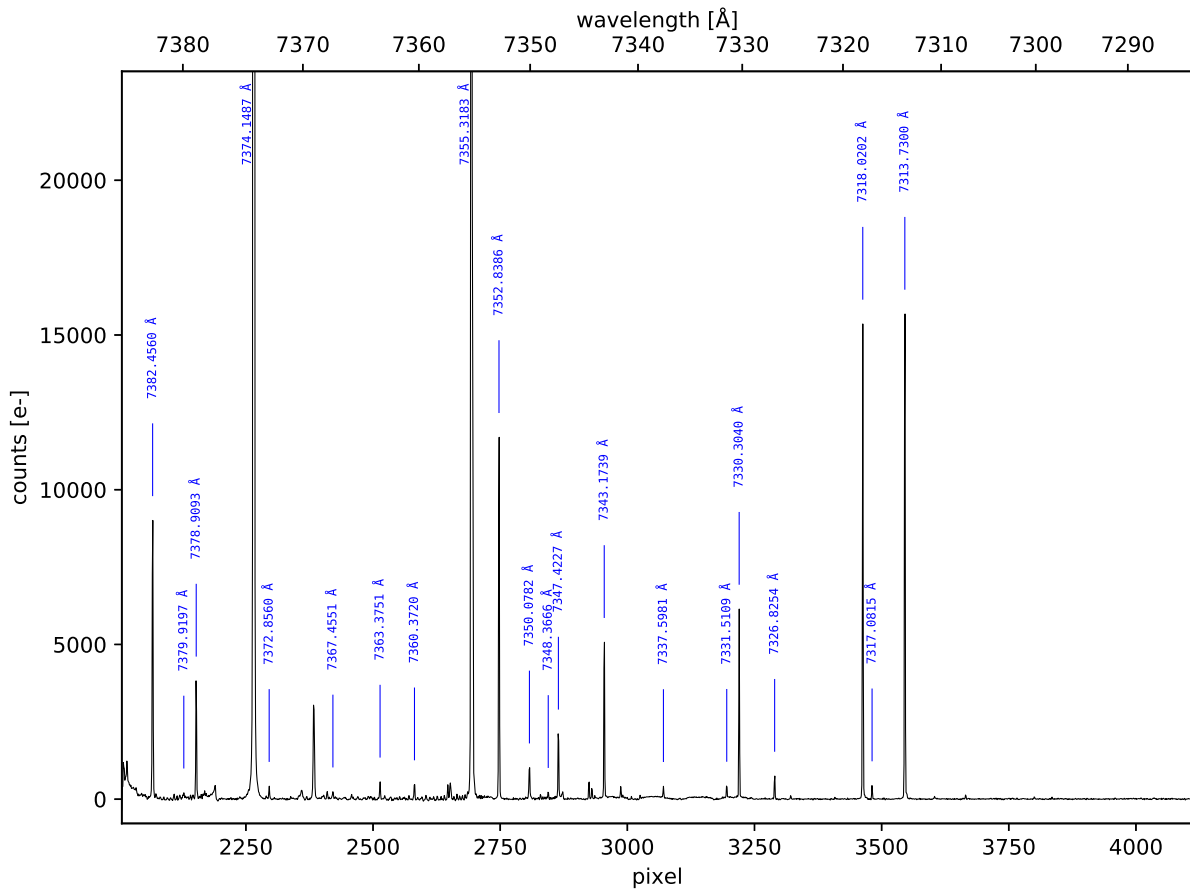


Cure ThAr lamp: Order 19 ($m = 83$; # lines = 36)

Order 19 ($m = 83$) - red part

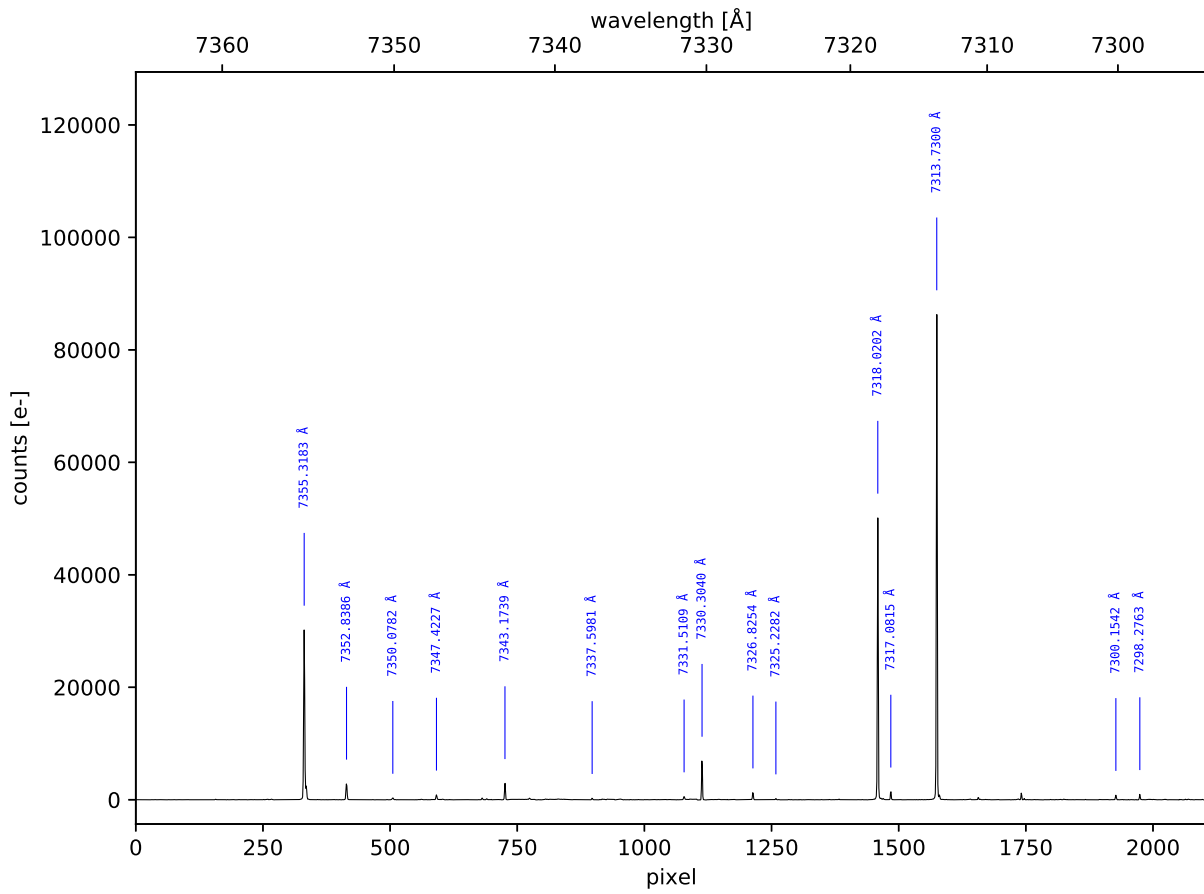


Order 19 ($m = 83$) - blue part

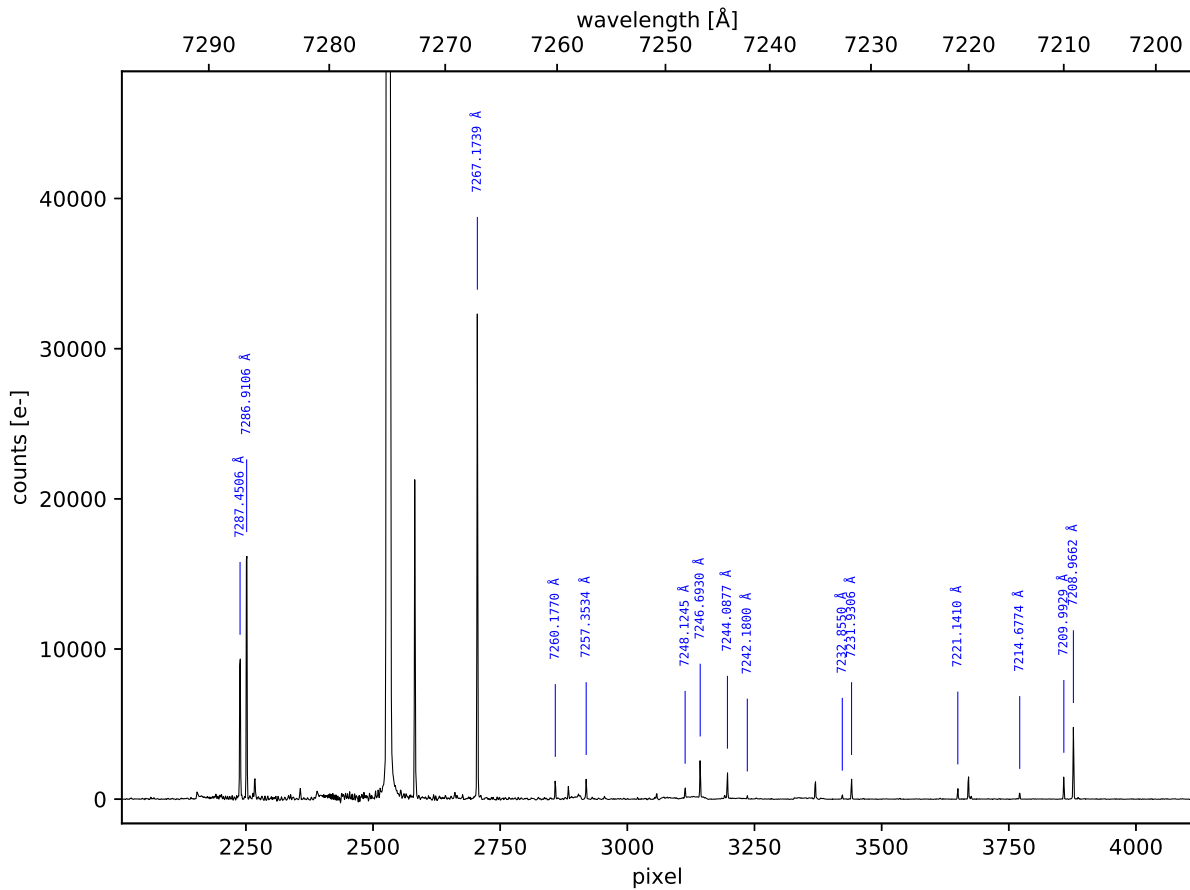


Cure ThAr lamp: Order 20 ($m = 84$; # lines = 30)

Order 20 ($m = 84$) - red part

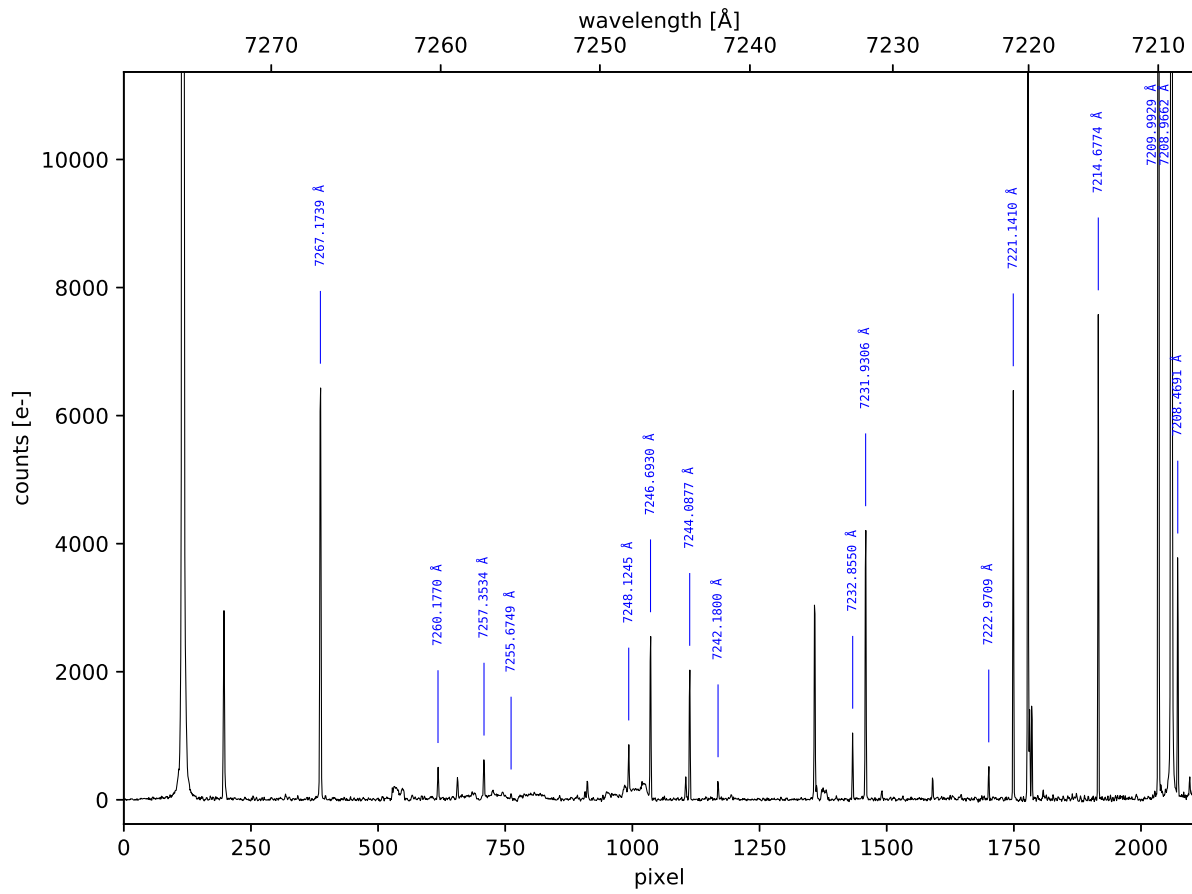


Order 20 ($m = 84$) - blue part

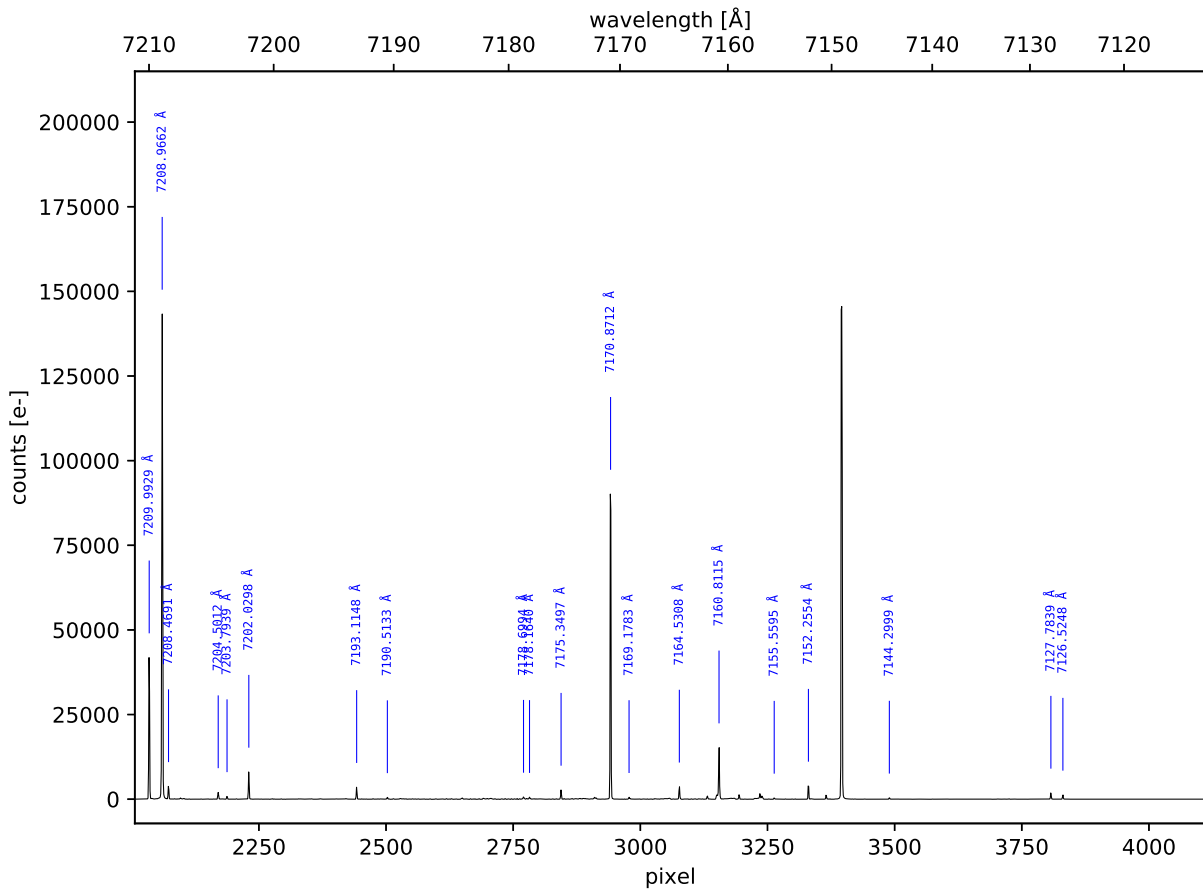


Cure ThAr lamp: Order 21 ($m = 85$; # lines = 33)

Order 21 ($m = 85$) - red part

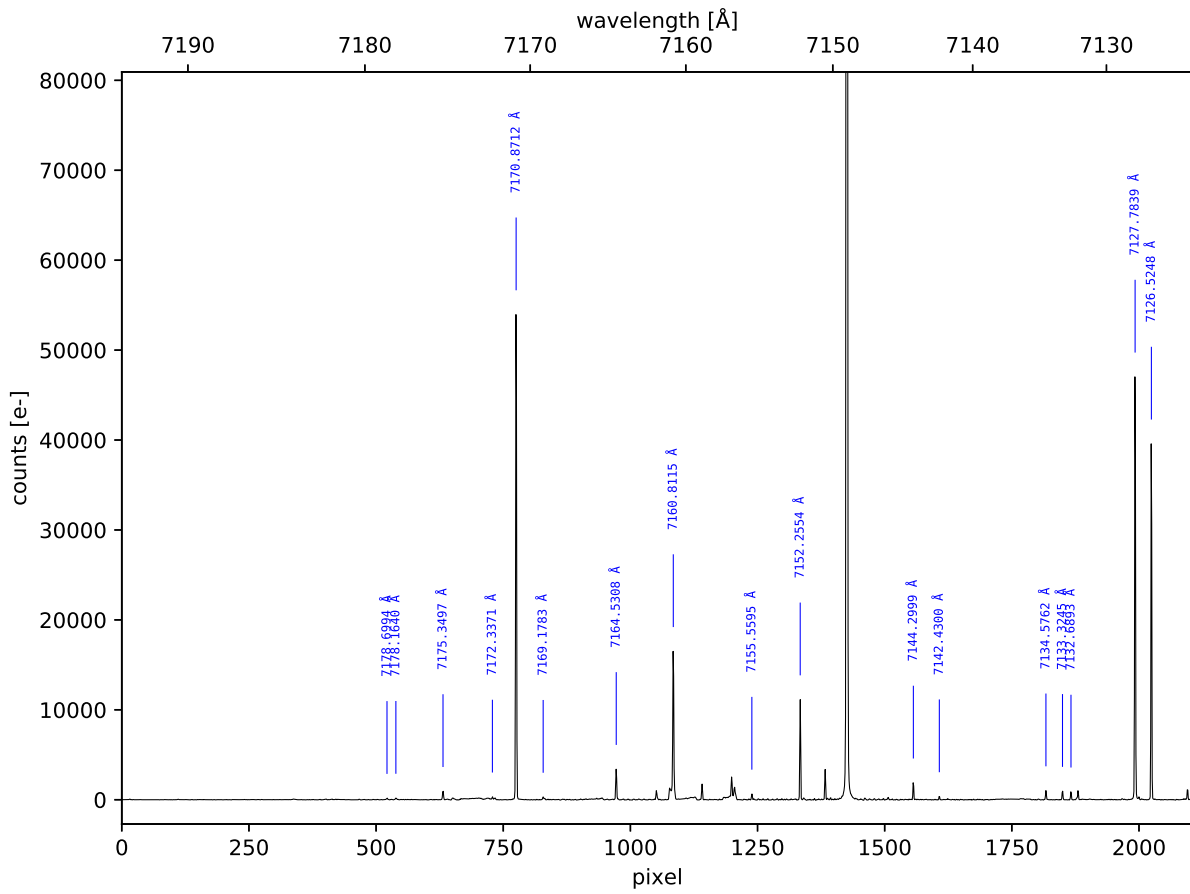


Order 21 ($m = 85$) - blue part

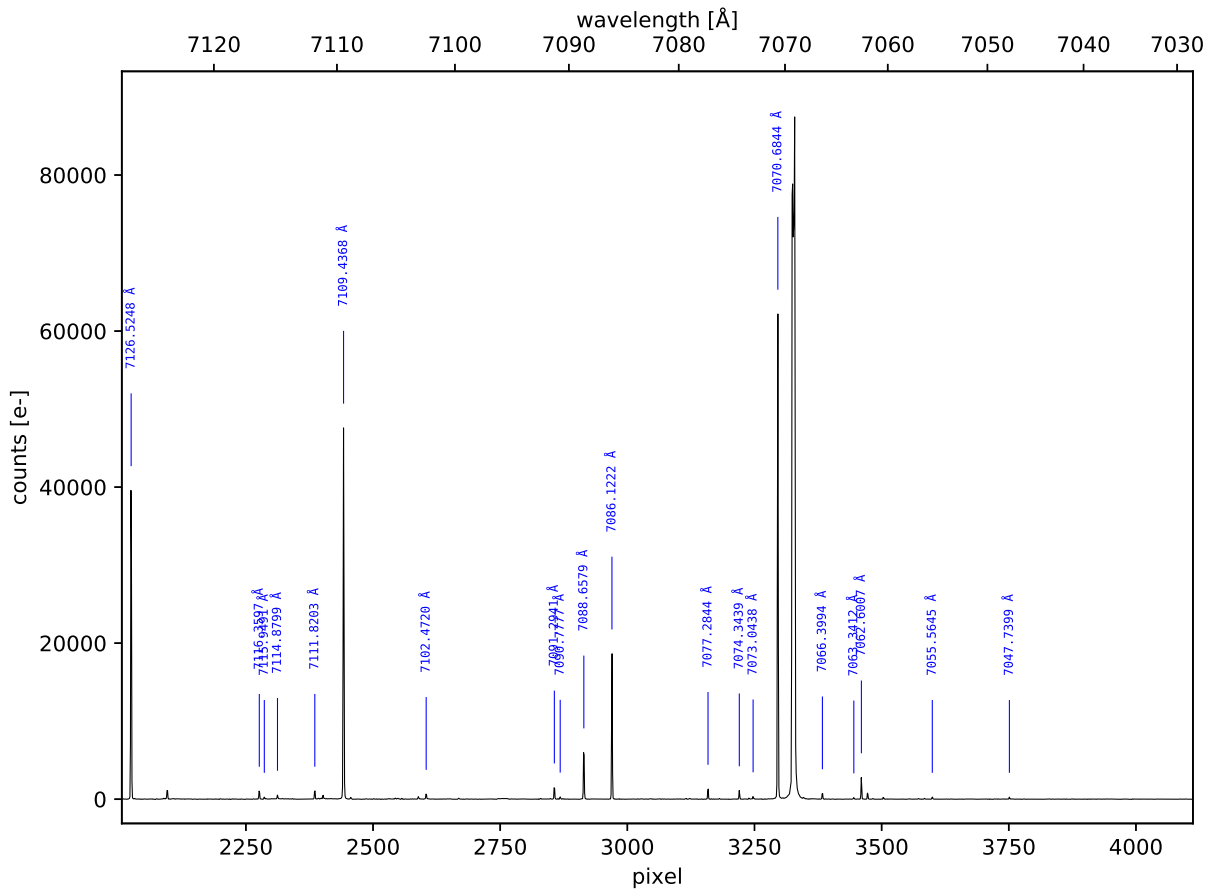


Cure ThAr lamp: Order 22 ($m = 86$; # lines = 36)

Order 22 ($m = 86$) - red part

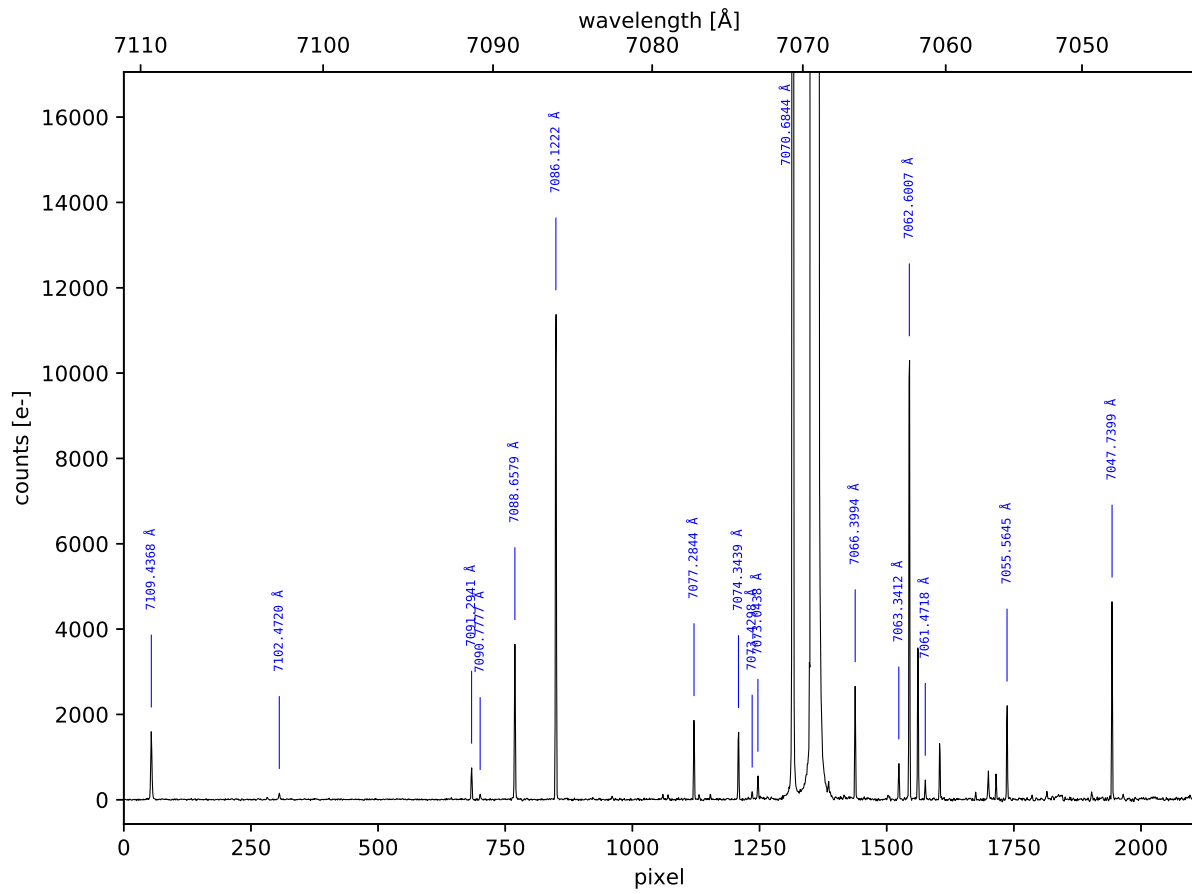


Order 22 ($m = 86$) - blue part

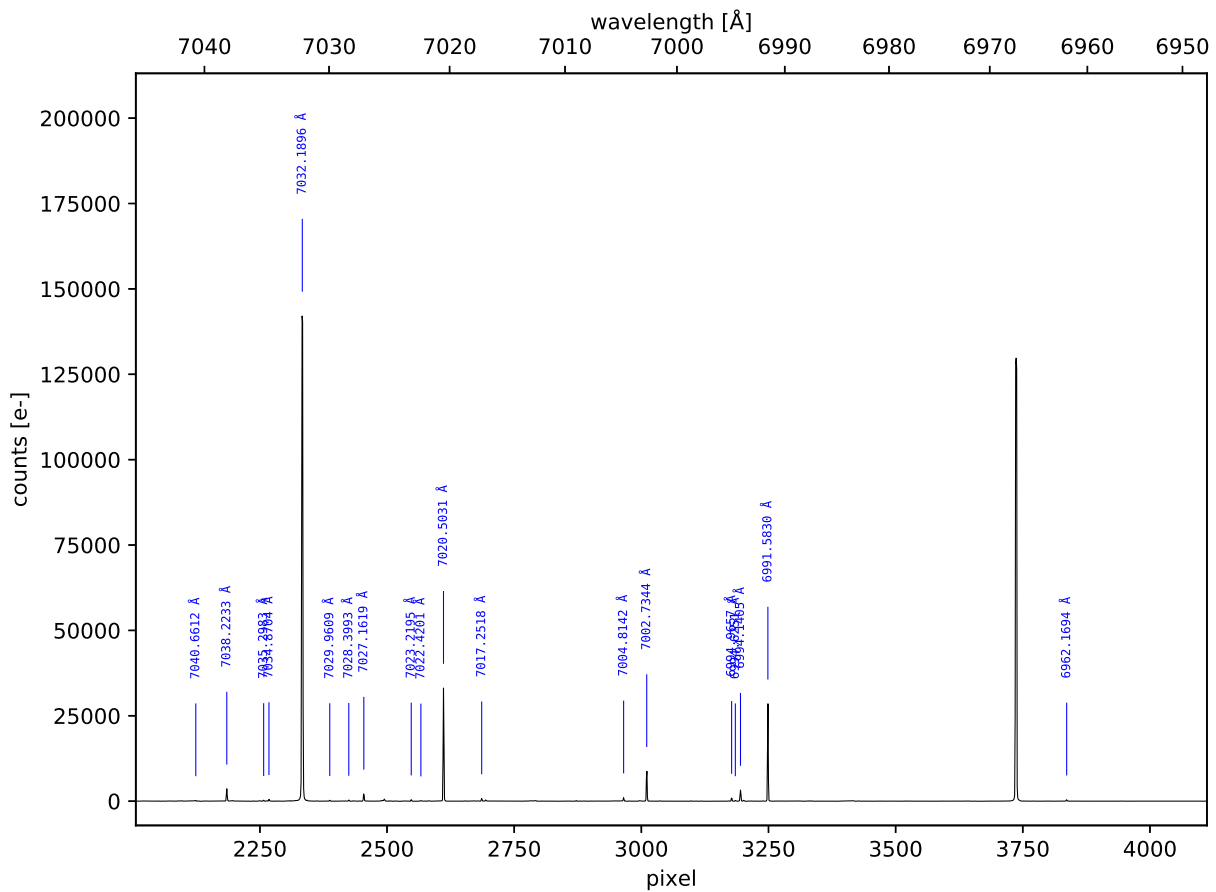


Cure ThAr lamp: Order 23 ($m = 87$; # lines = 36)

Order 23 ($m = 87$) - red part

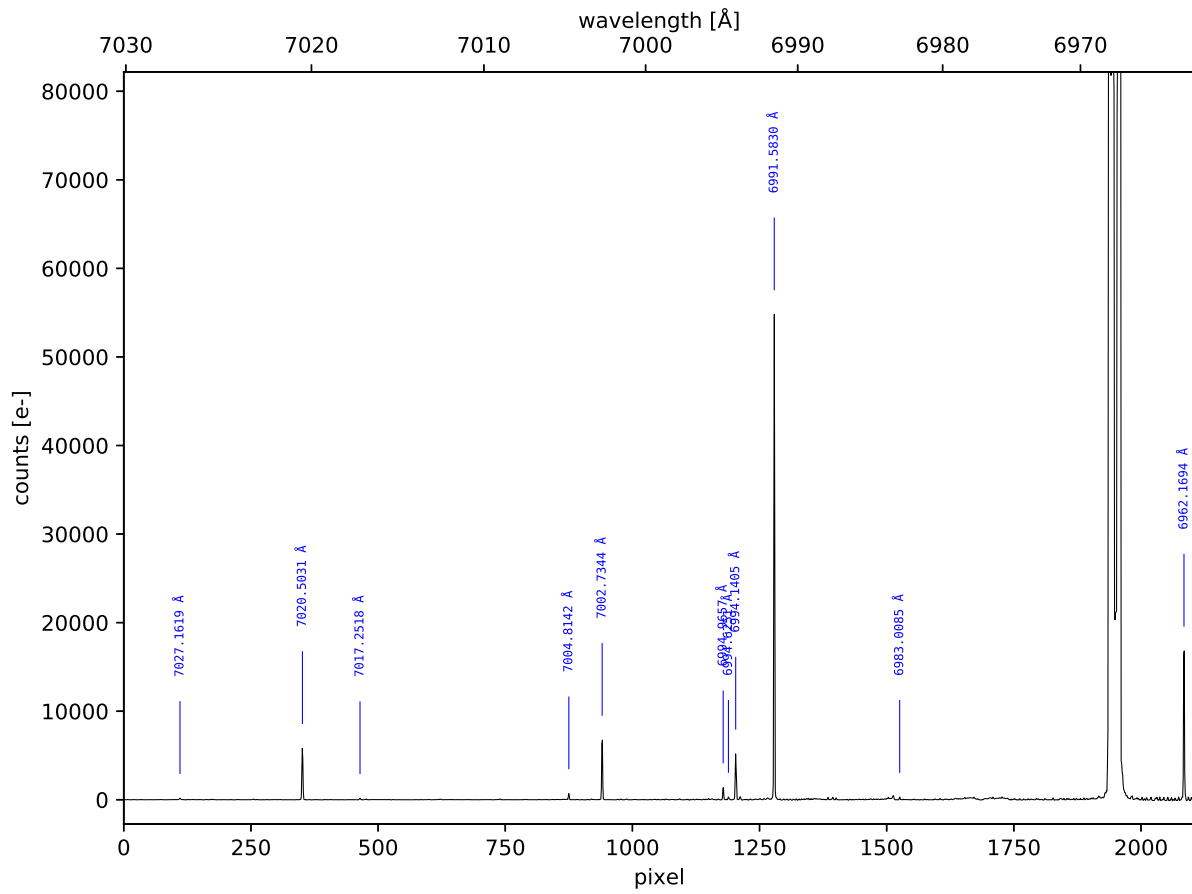


Order 23 ($m = 87$) - blue part

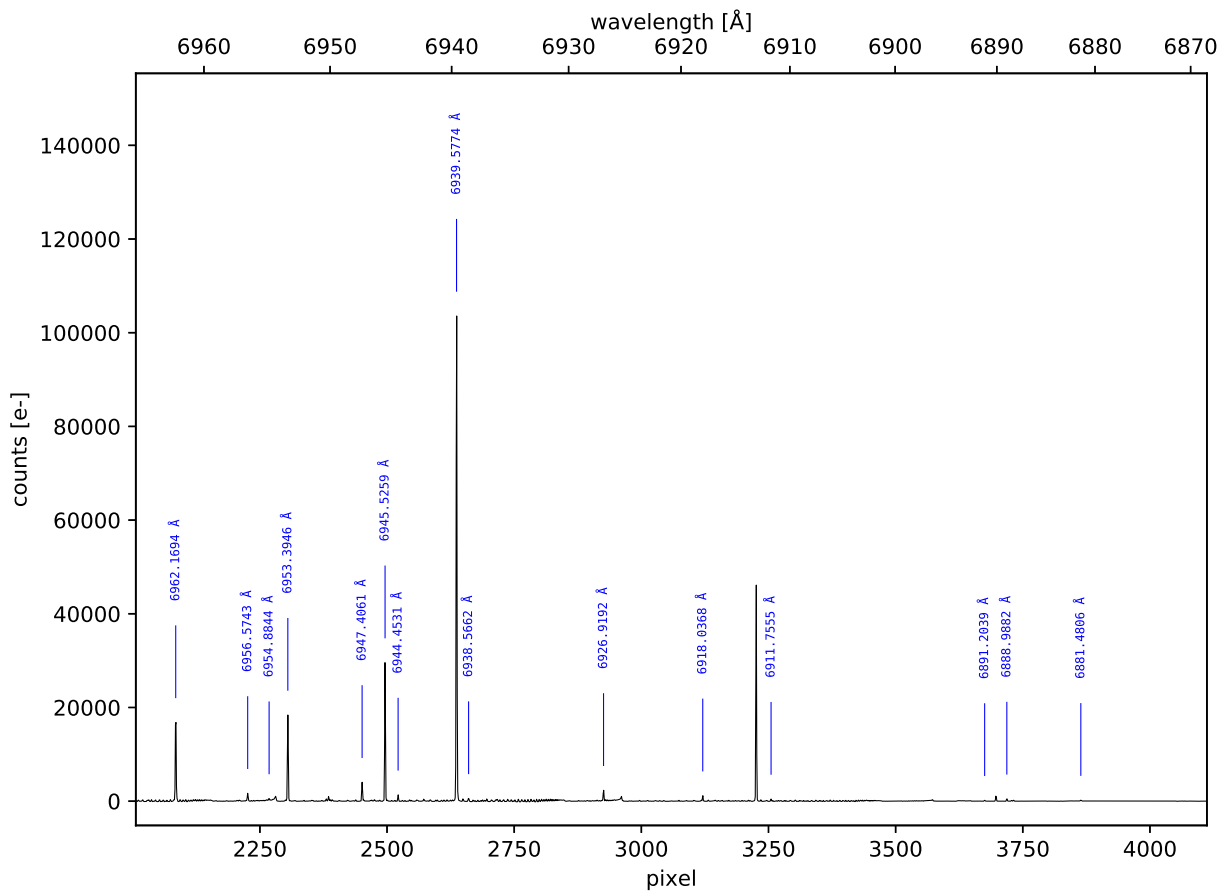


Cure ThAr lamp: Order 24 ($m = 88$; # lines = 25)

Order 24 ($m = 88$) - red part

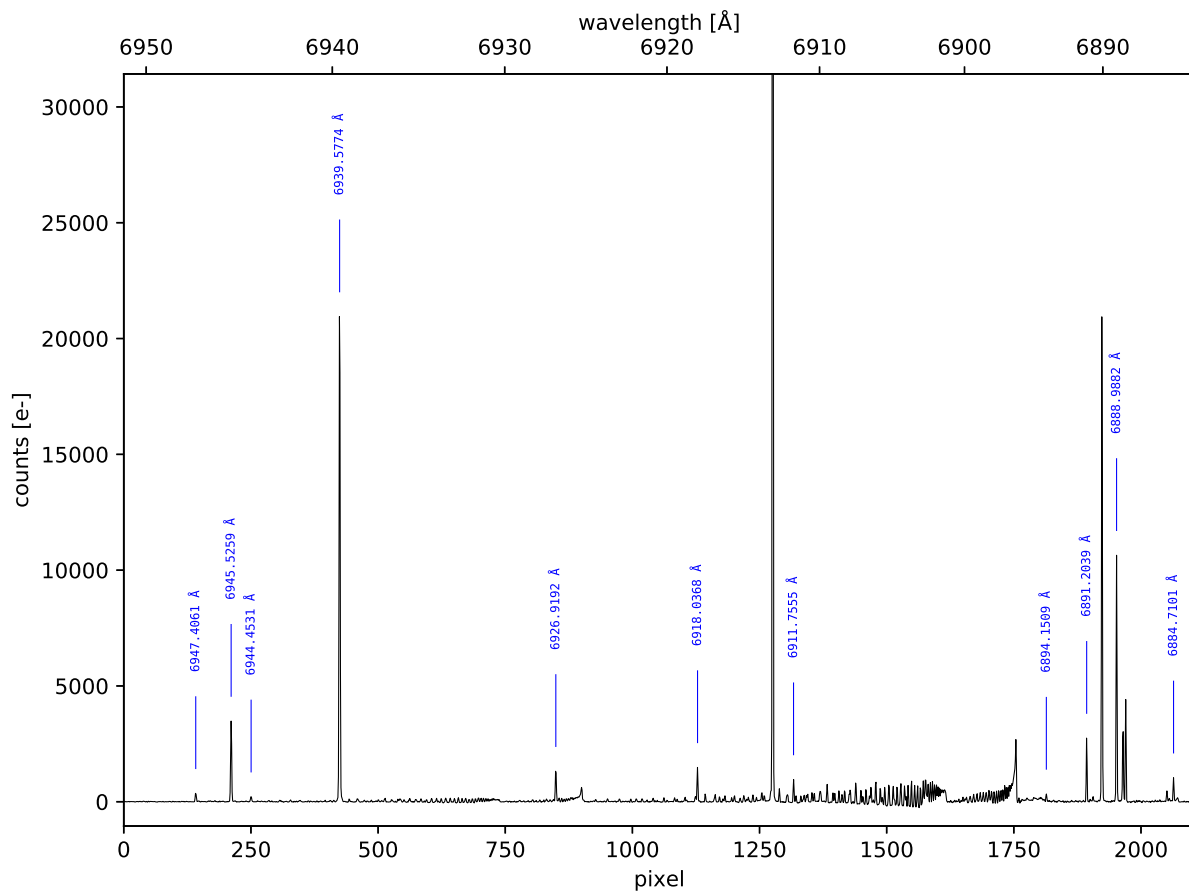


Order 24 ($m = 88$) - blue part

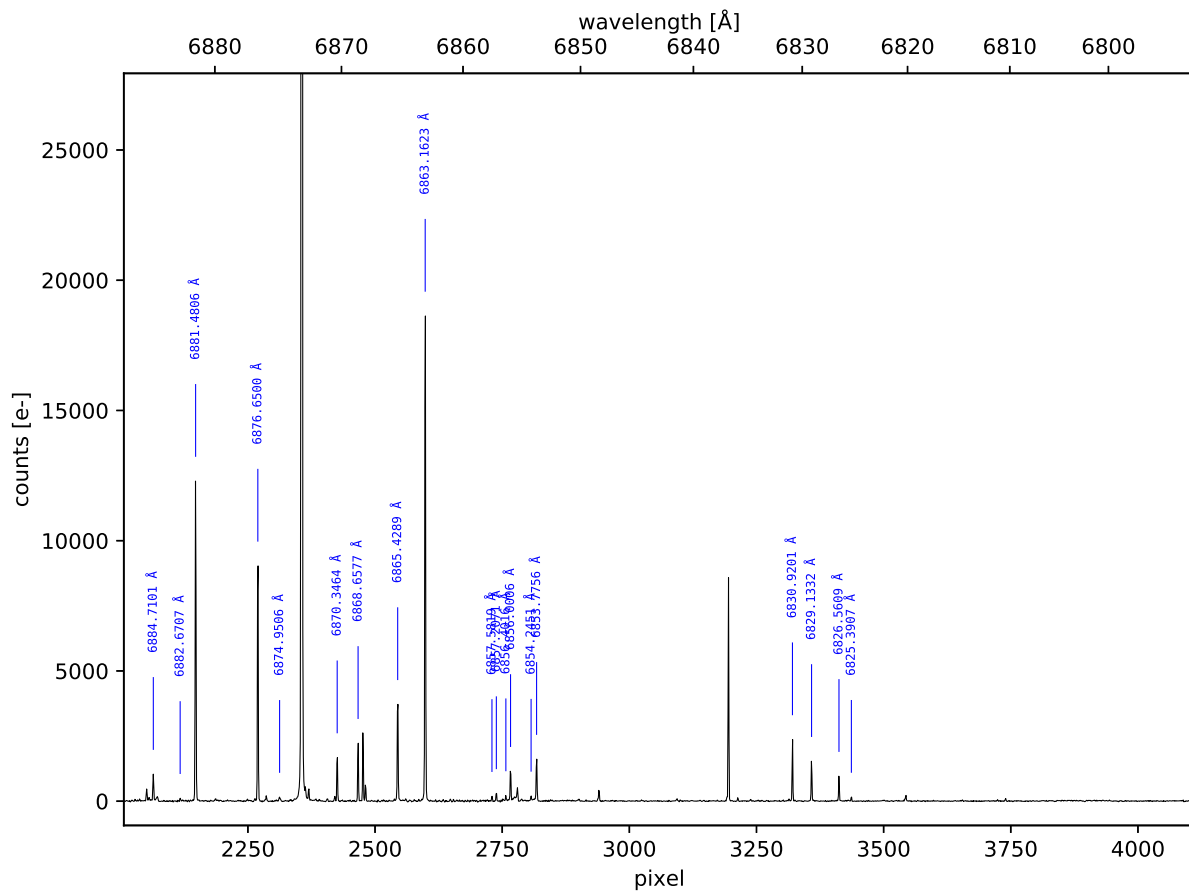


Cure ThAr lamp: Order 25 ($m = 89$; # lines = 29)

Order 25 ($m = 89$) - red part

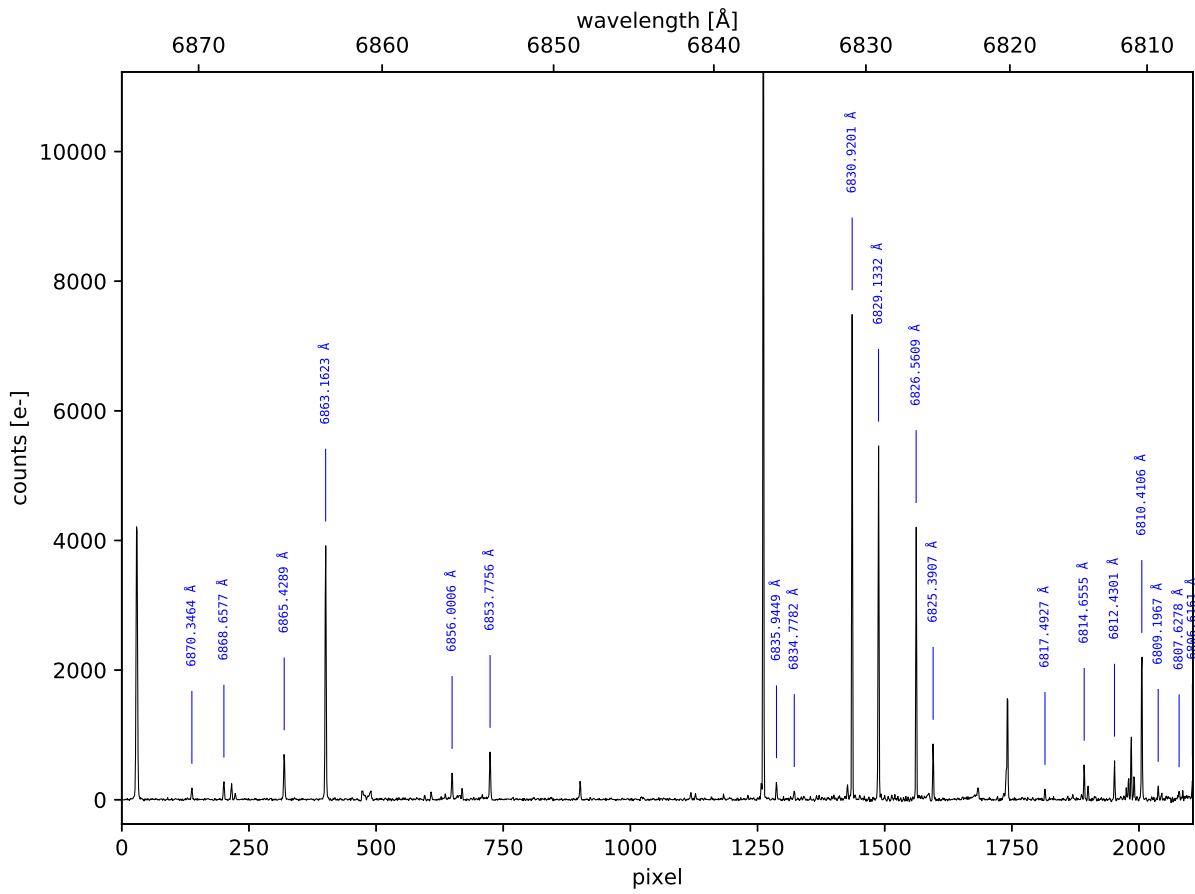


Order 25 ($m = 89$) - blue part

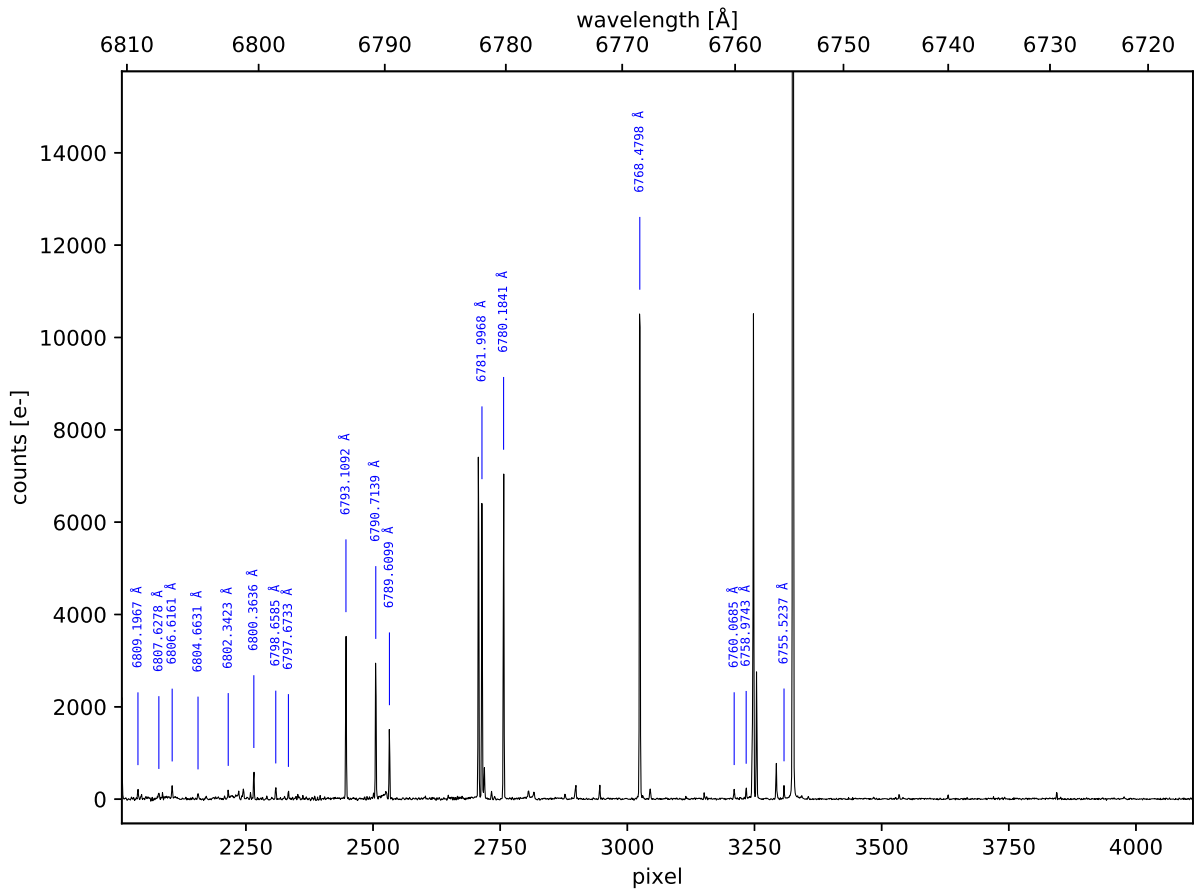


Cure ThAr lamp: Order 26 ($m = 90$; # lines = 33)

Order 26 ($m = 90$) - red part

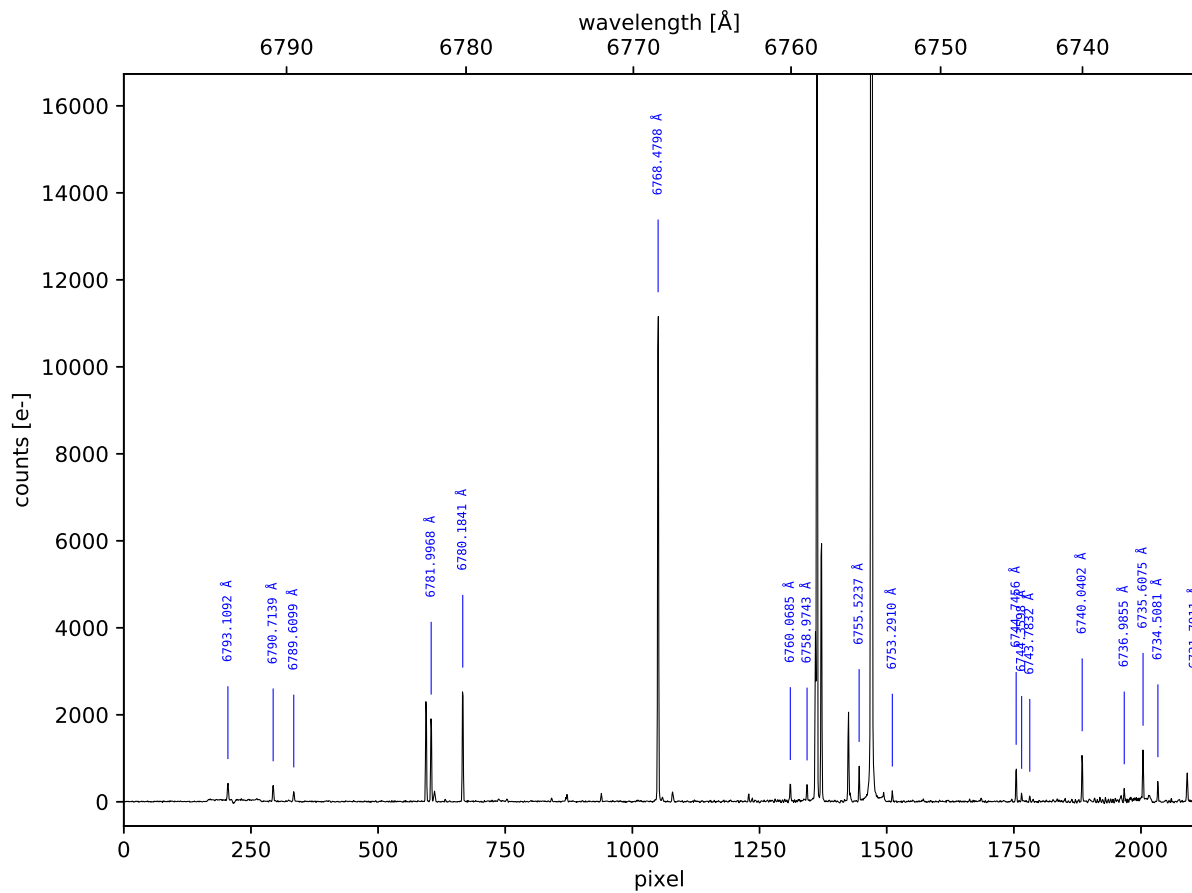


Order 26 ($m = 90$) - blue part

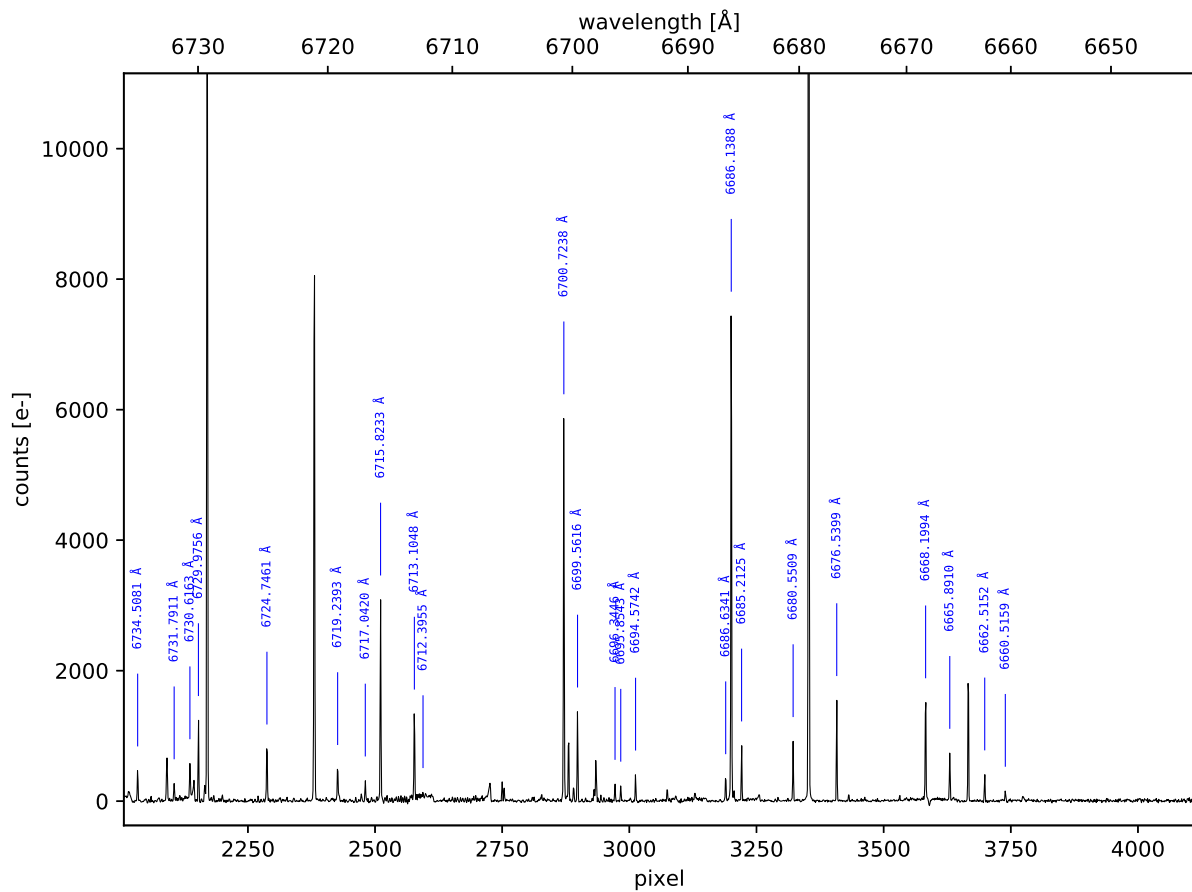


Cure ThAr lamp: Order 27 ($m = 91$; # lines = 40)

Order 27 ($m = 91$) - red part

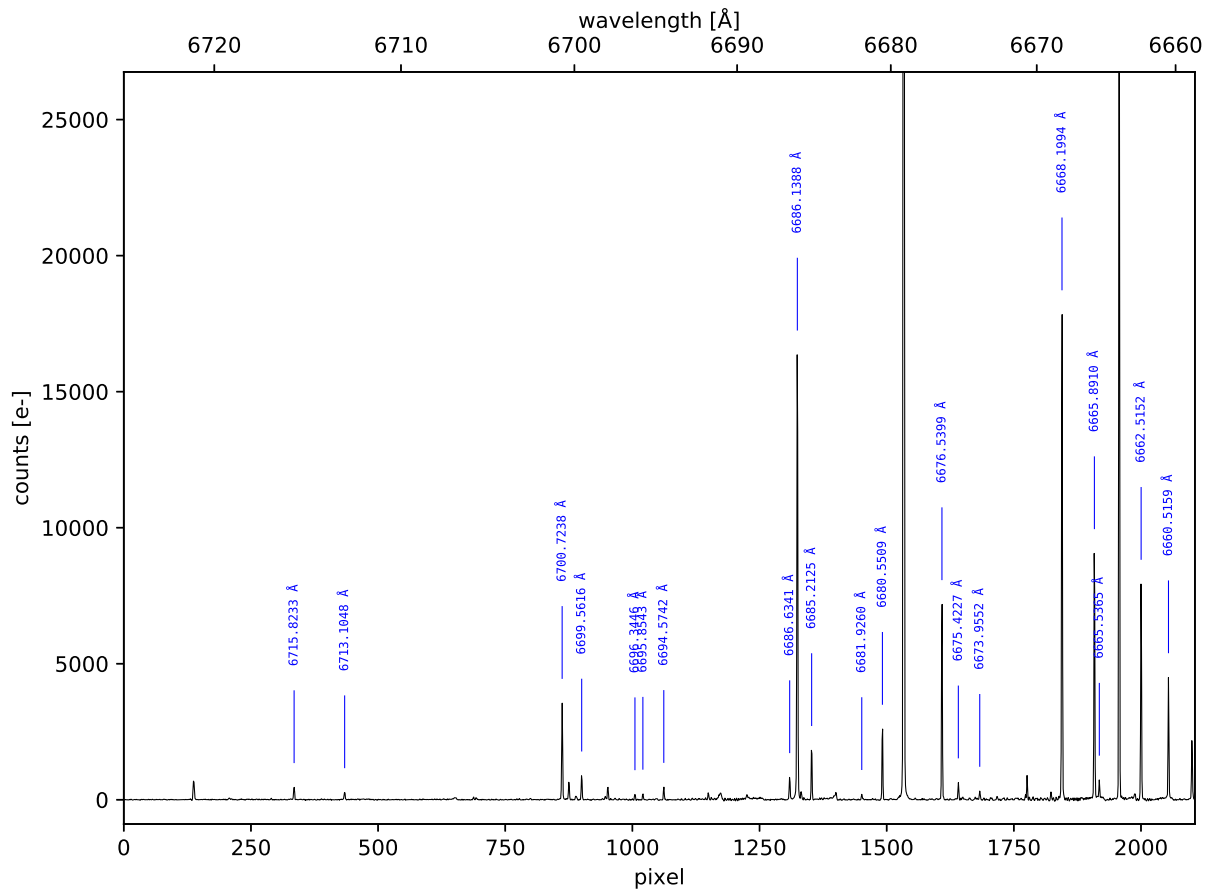


Order 27 ($m = 91$) - blue part

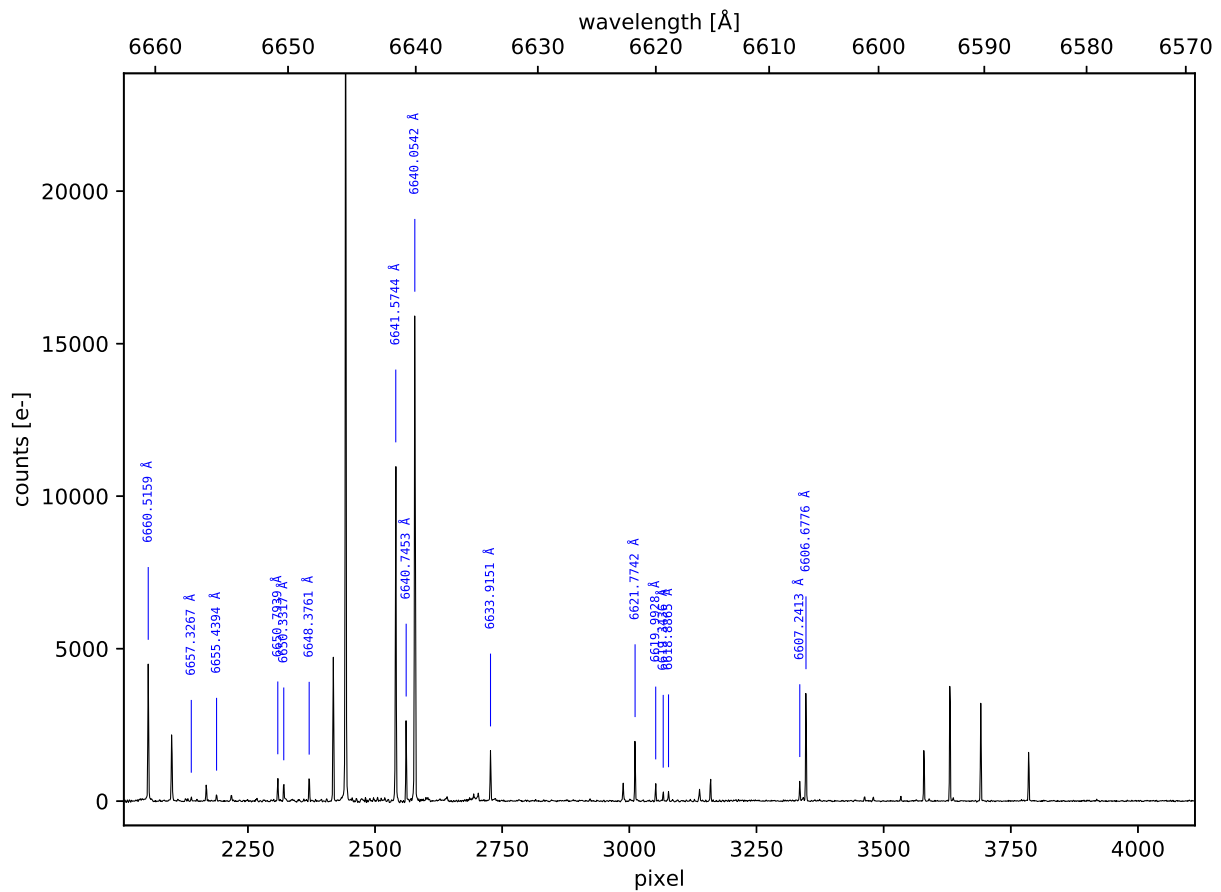


Cure ThAr lamp: Order 28 ($m = 92$; # lines = 35)

Order 28 ($m = 92$) - red part

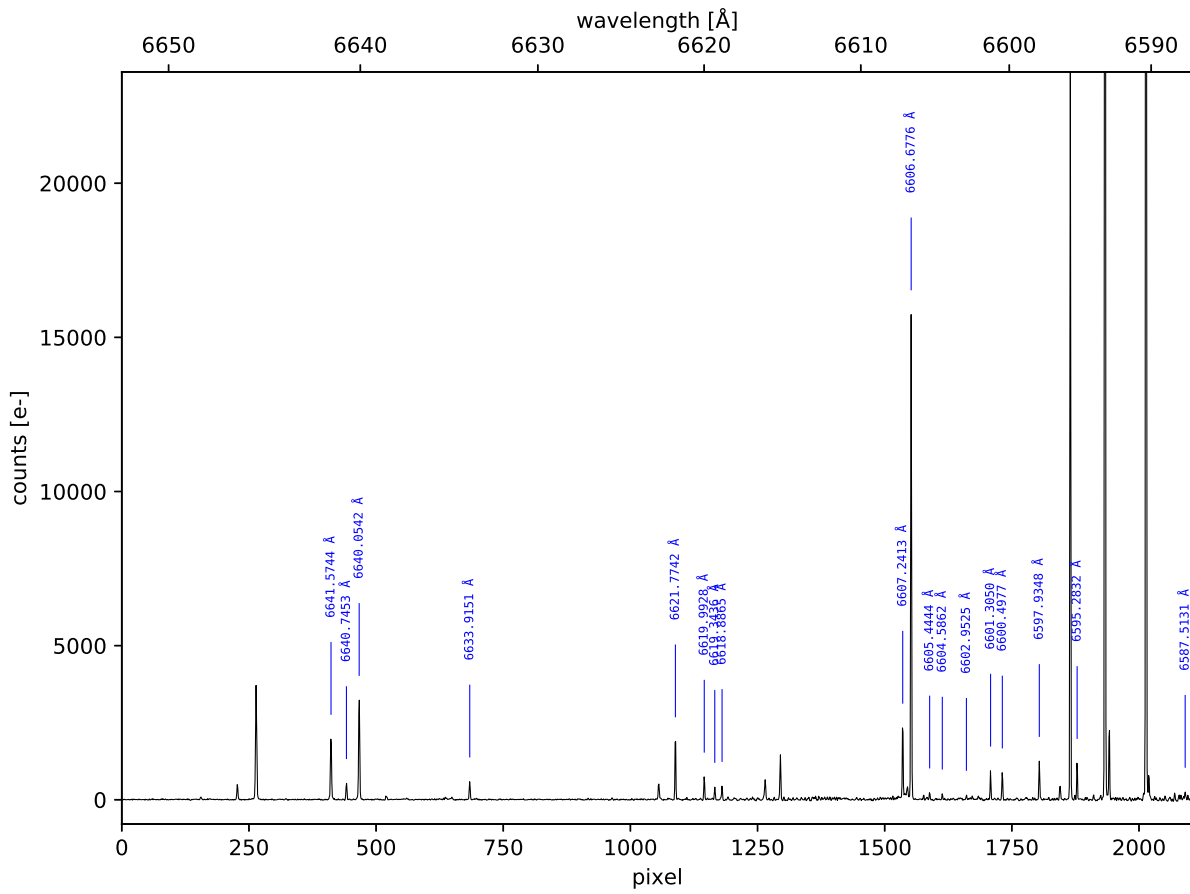


Order 28 ($m = 92$) - blue part

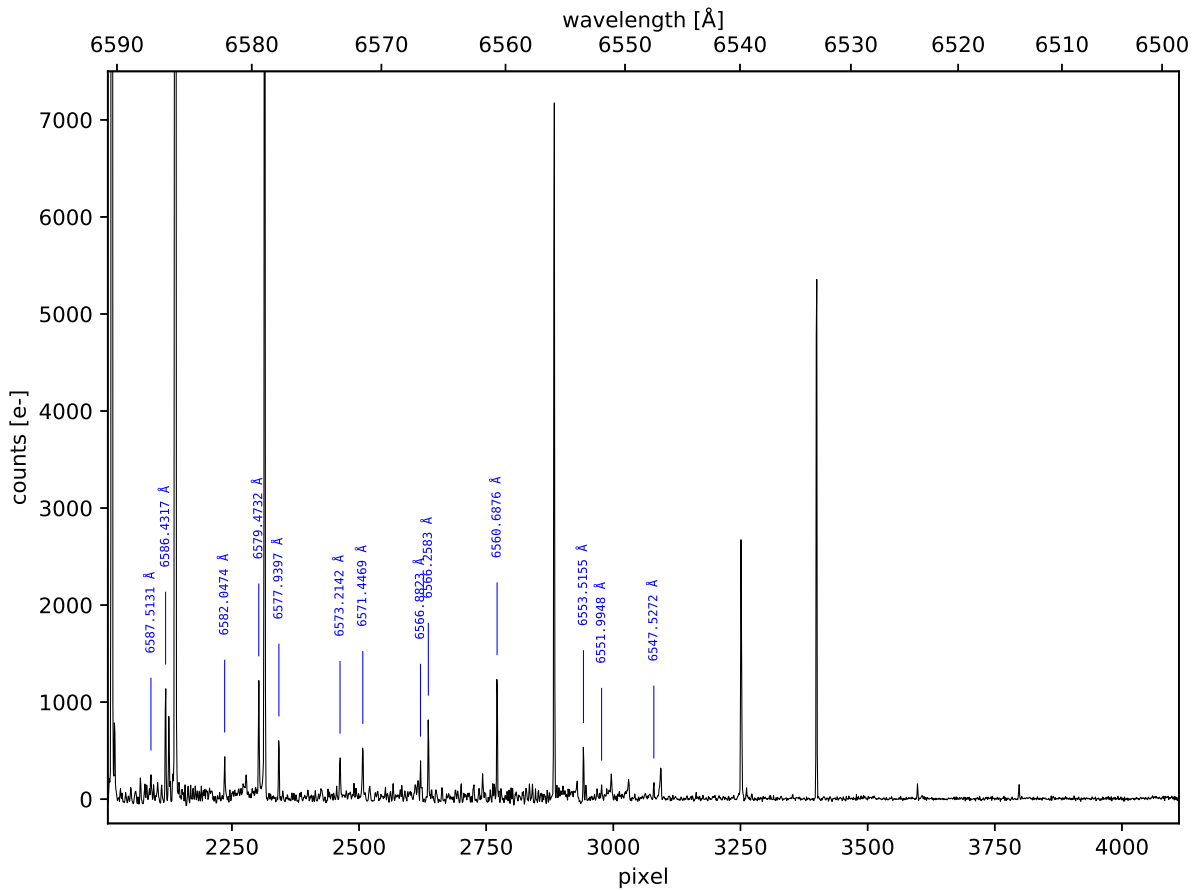


Cure ThAr lamp: Order 29 ($m = 93$; # lines = 30)

Order 29 ($m = 93$) - red part

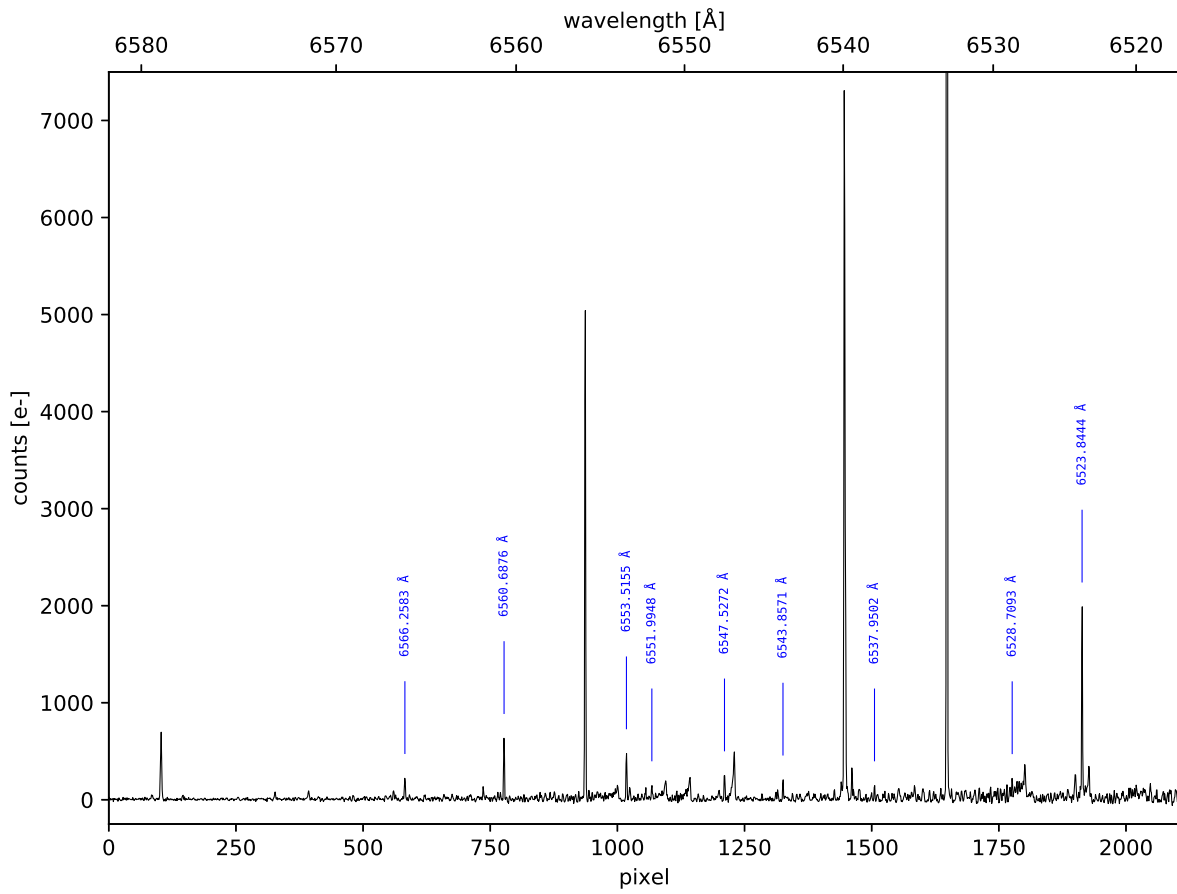


Order 29 ($m = 93$) - blue part

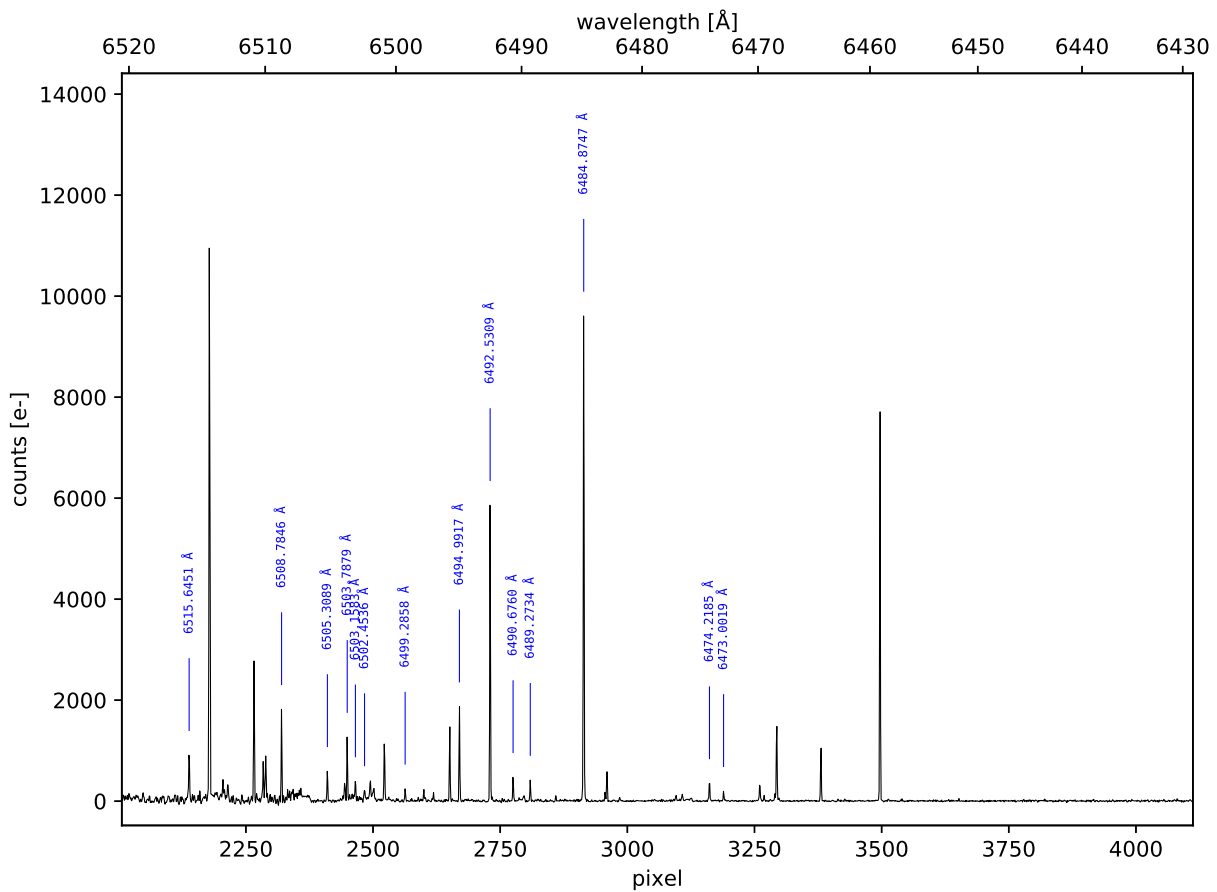


Cure ThAr lamp: Order 30 ($m = 94$; # lines = 23)

Order 30 ($m = 94$) - red part

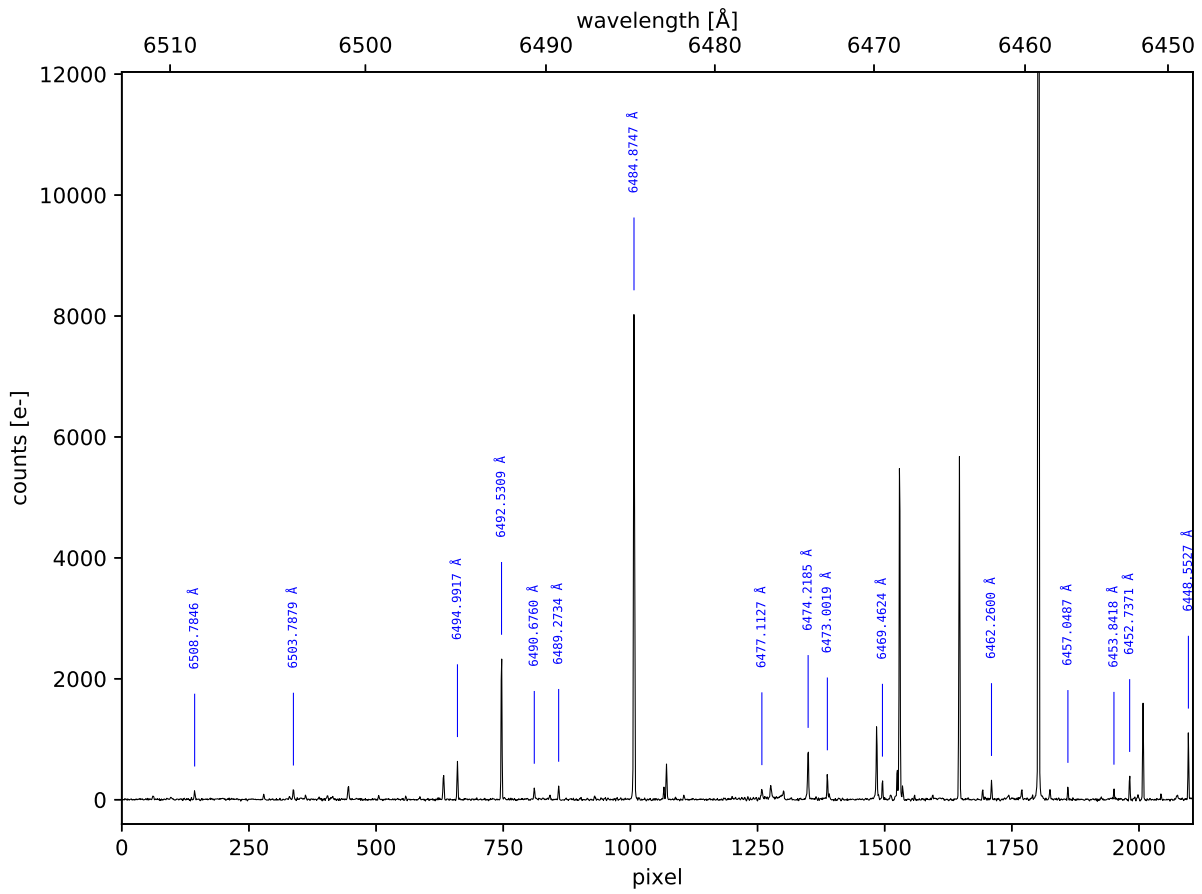


Order 30 ($m = 94$) - blue part

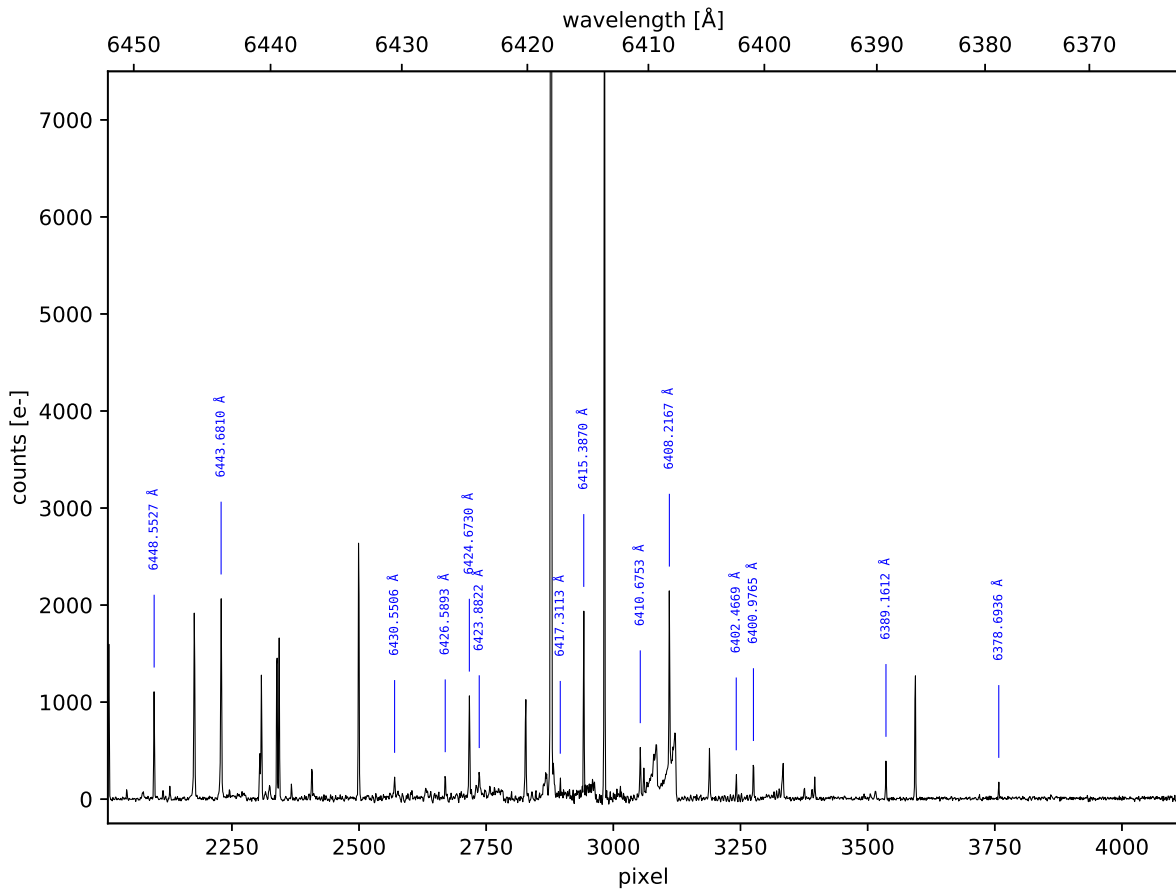


Cure ThAr lamp: Order 31 ($m = 95$; # lines = 29)

Order 31 ($m = 95$) - red part

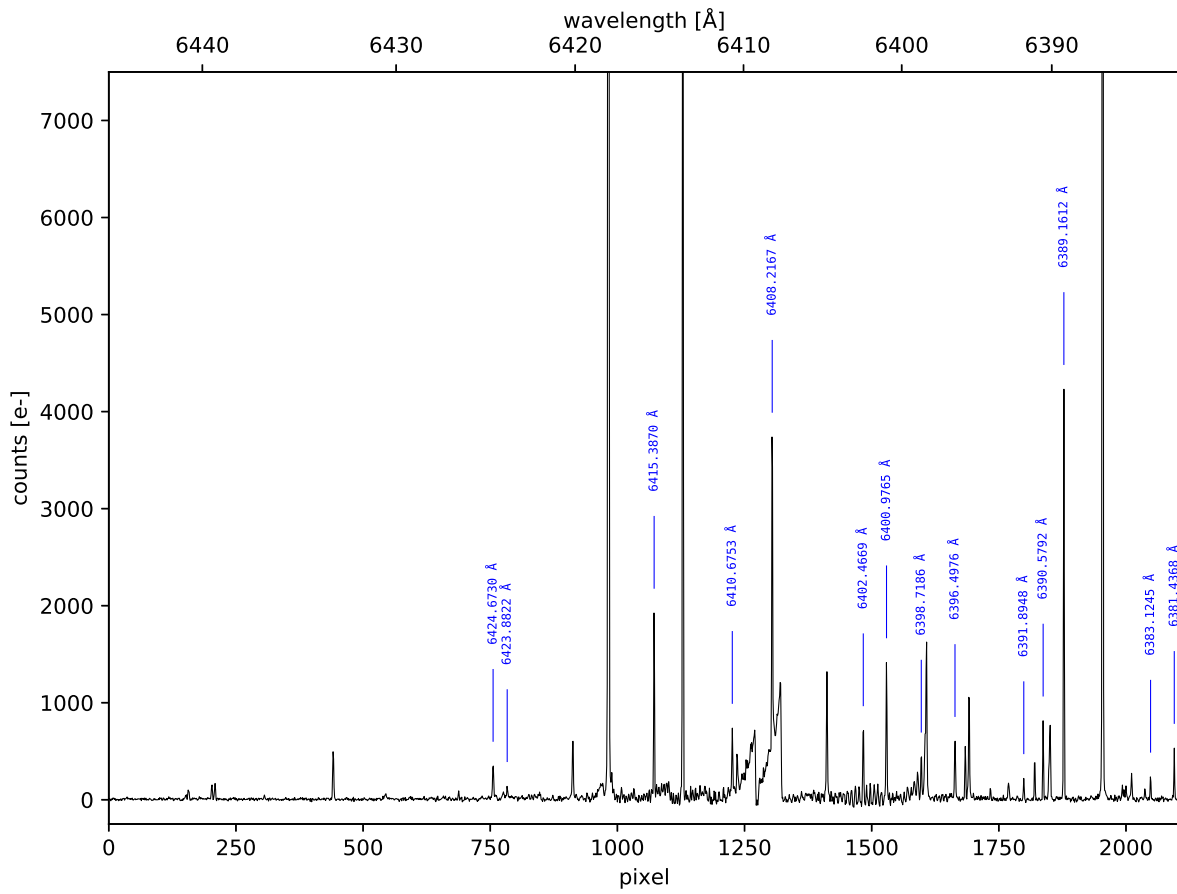


Order 31 ($m = 95$) - blue part

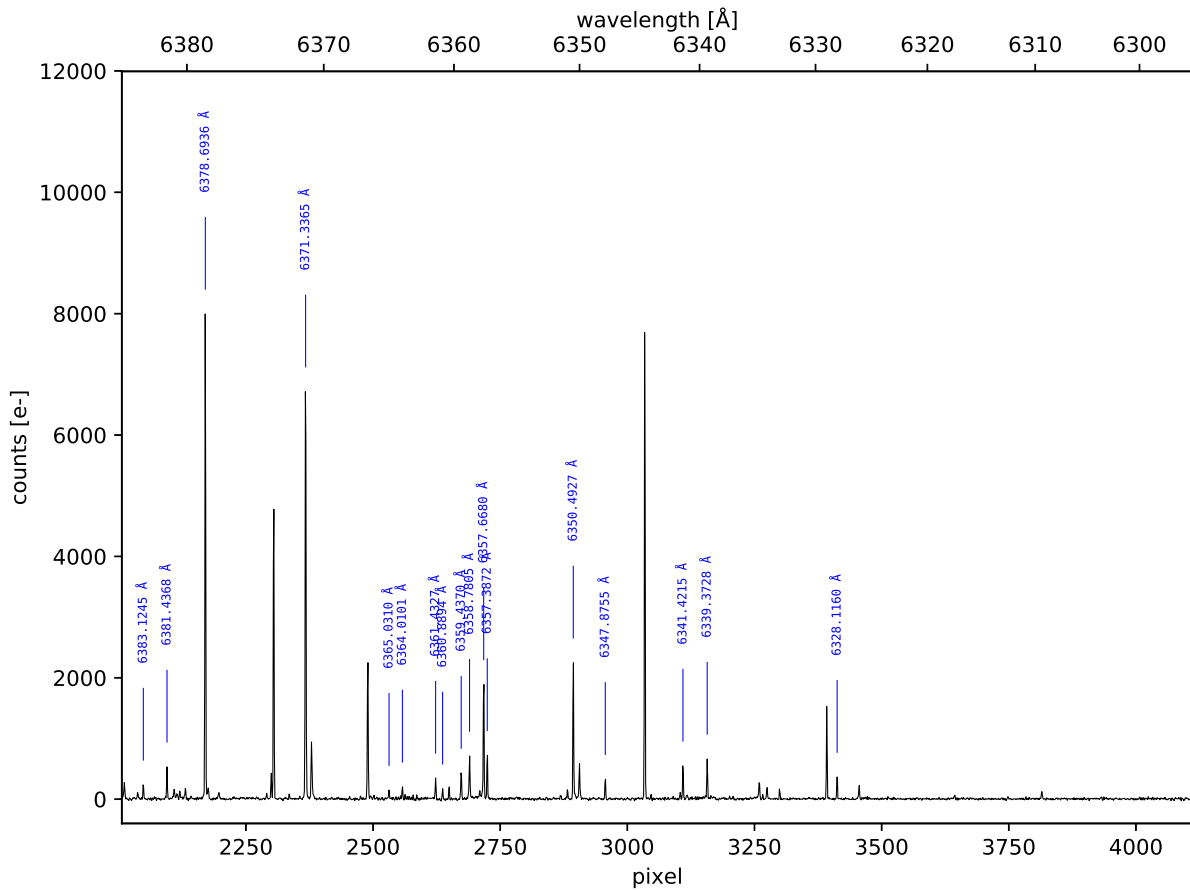


Cure ThAr lamp: Order 32 ($m = 96$; # lines = 29)

Order 32 ($m = 96$) - red part

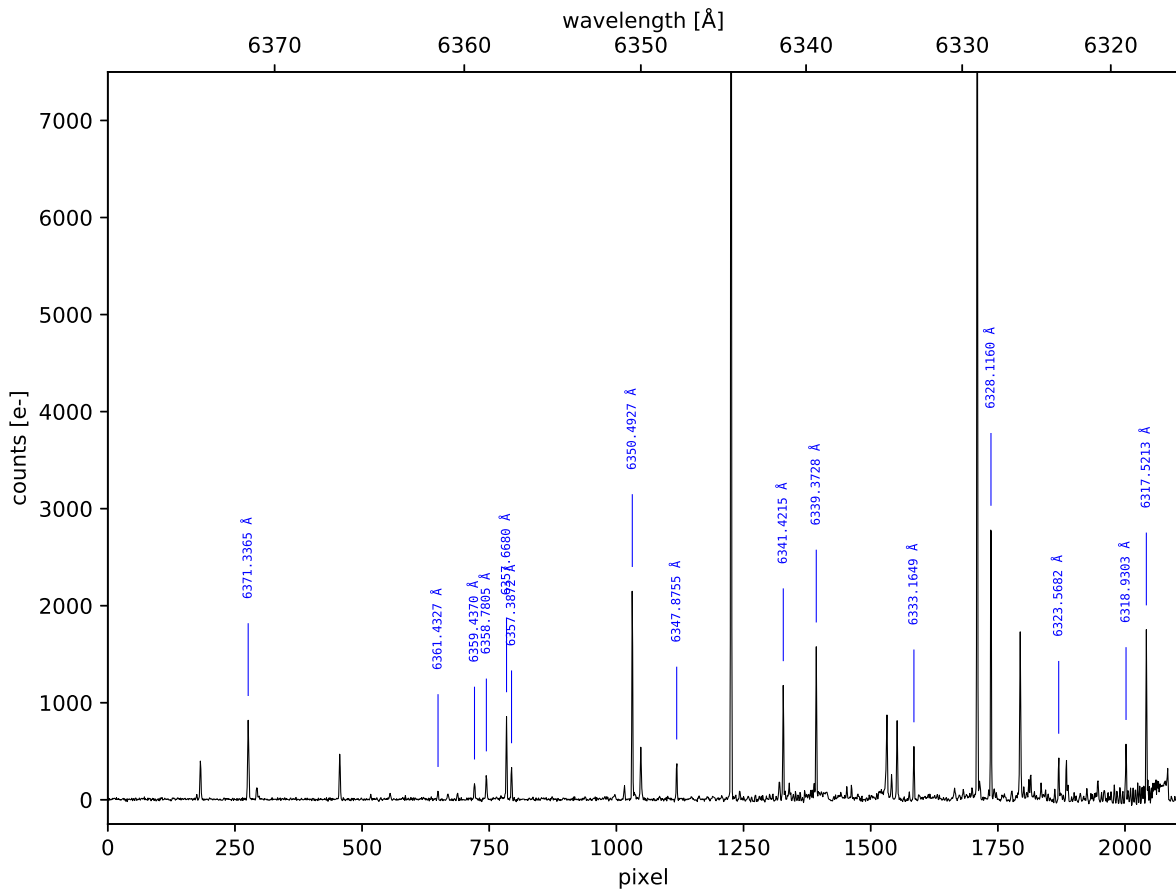


Order 32 ($m = 96$) - blue part

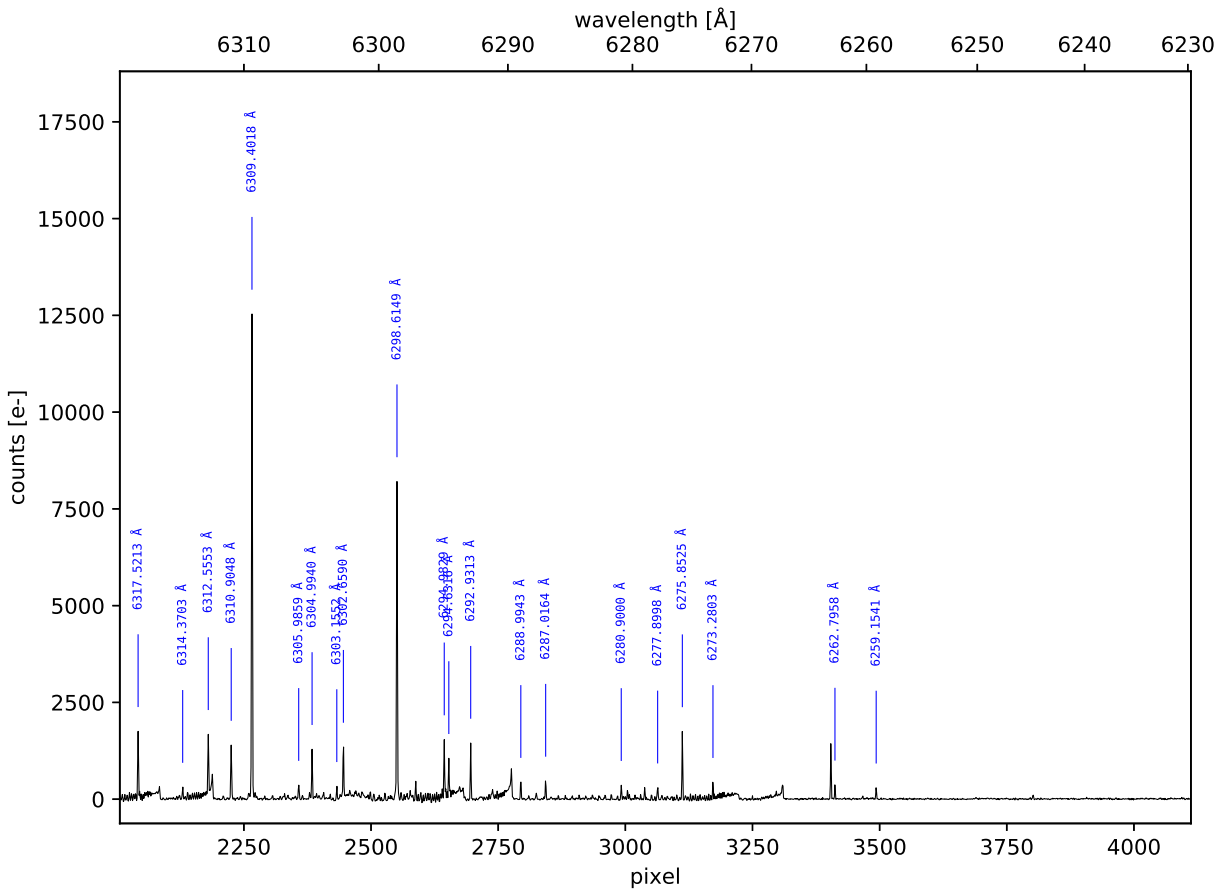


Cure ThAr lamp: Order 33 ($m = 97$; # lines = 35)

Order 33 ($m = 97$) - red part

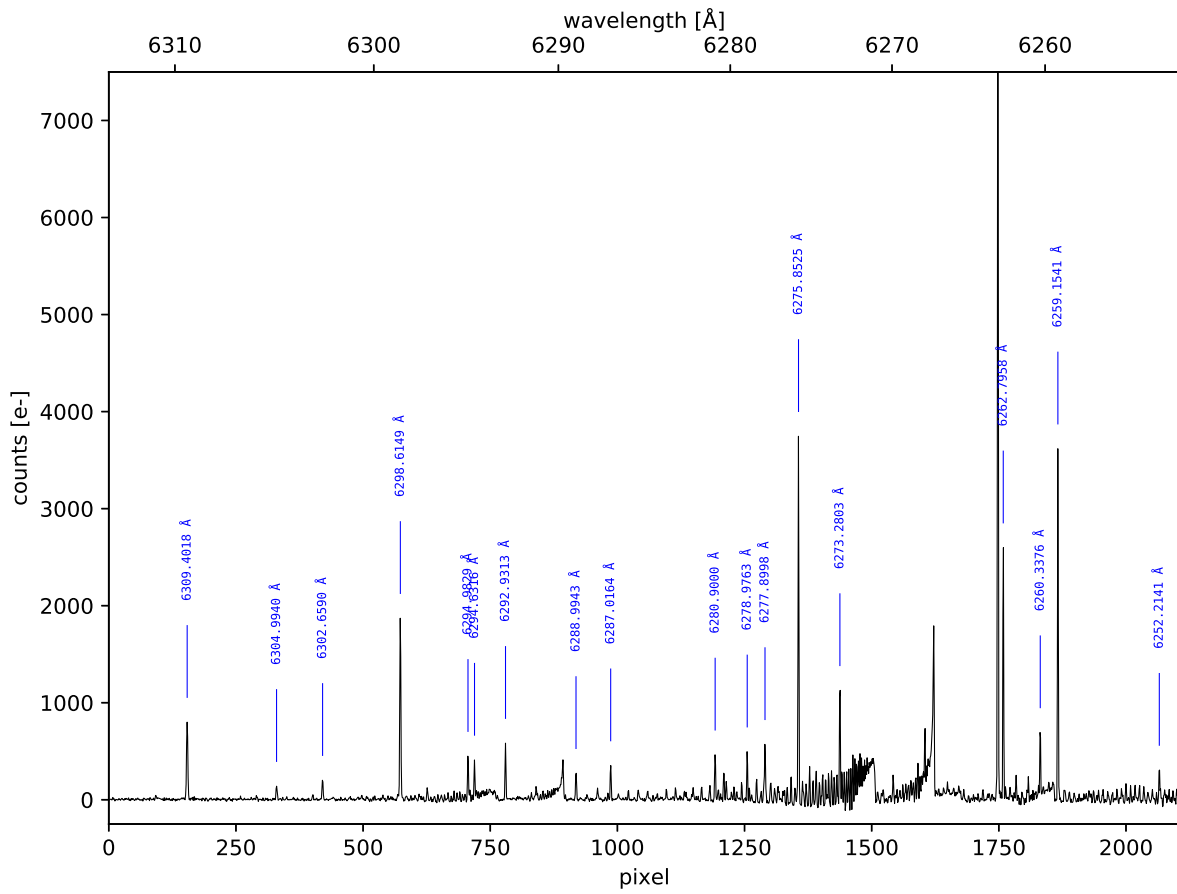


Order 33 ($m = 97$) - blue part

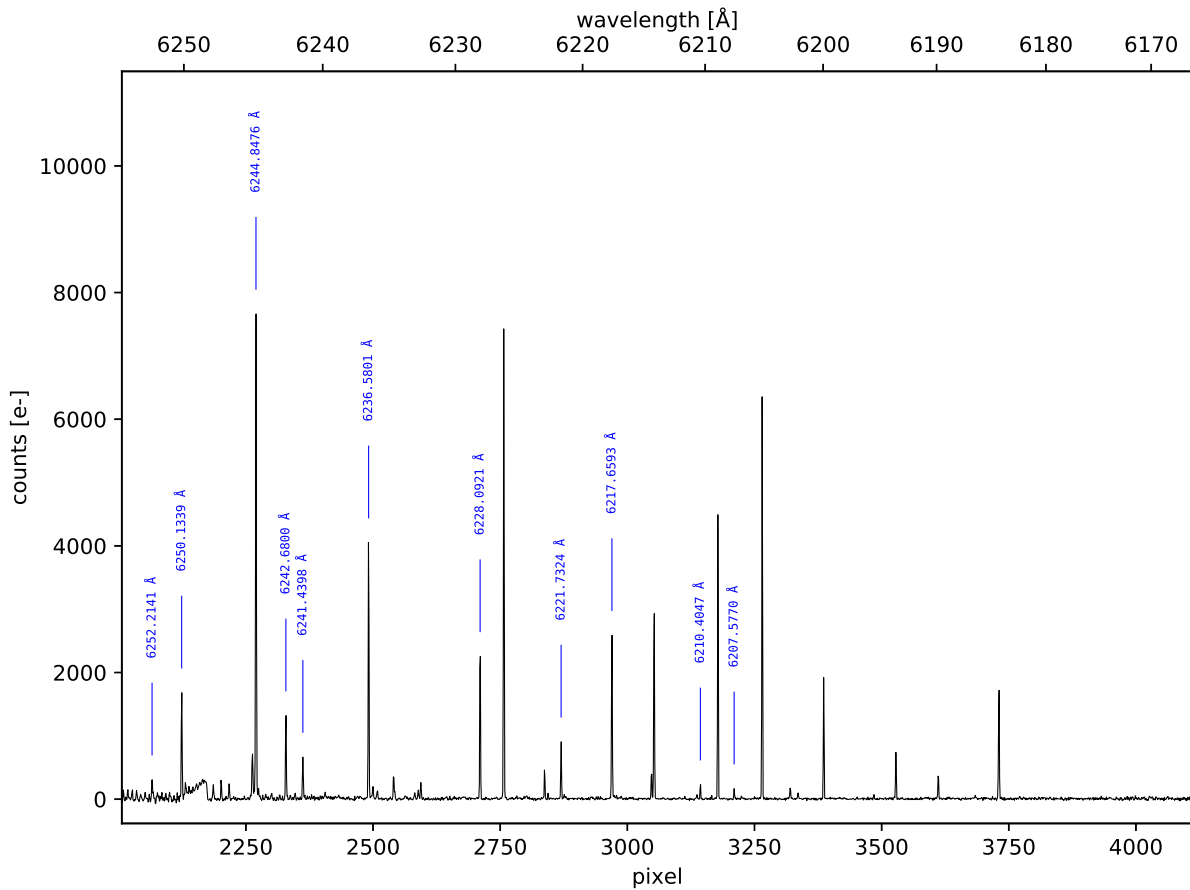


Cure ThAr lamp: Order 34 ($m = 98$; # lines = 28)

Order 34 ($m = 98$) - red part

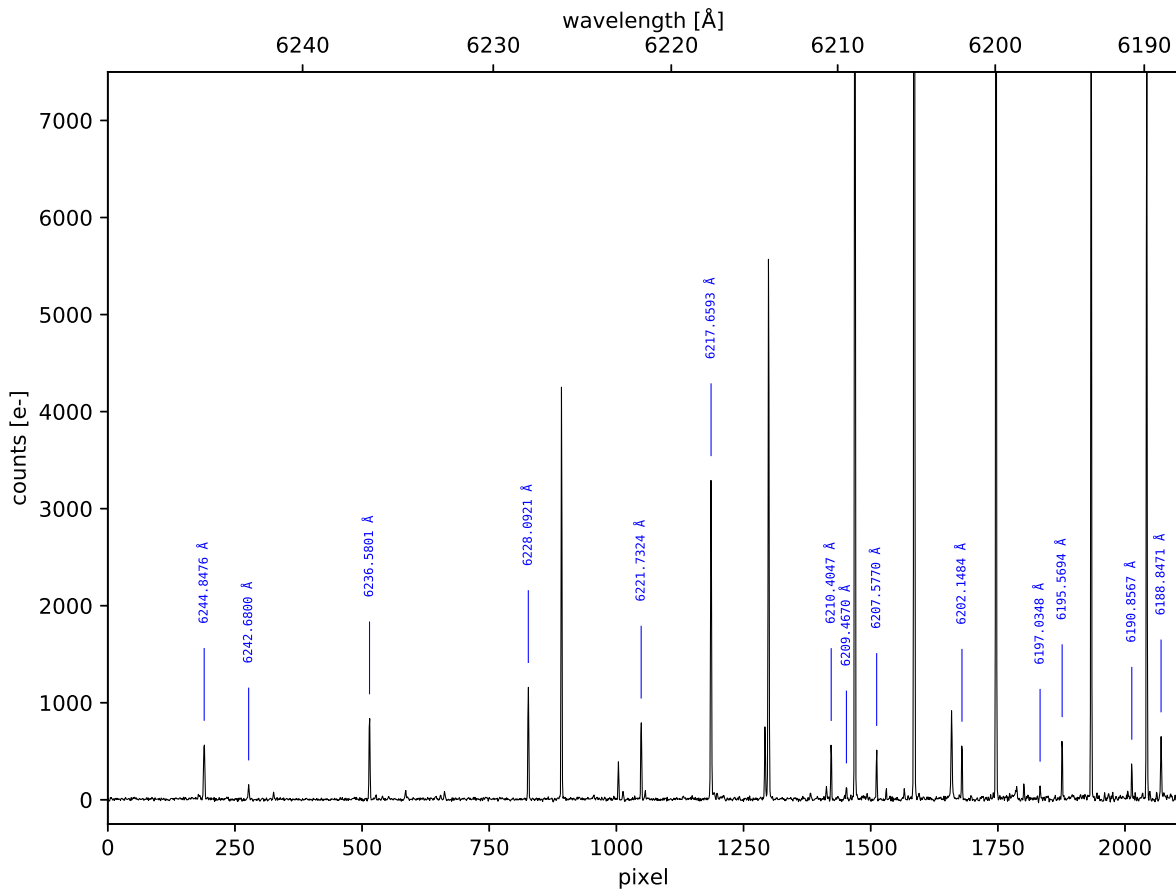


Order 34 ($m = 98$) - blue part

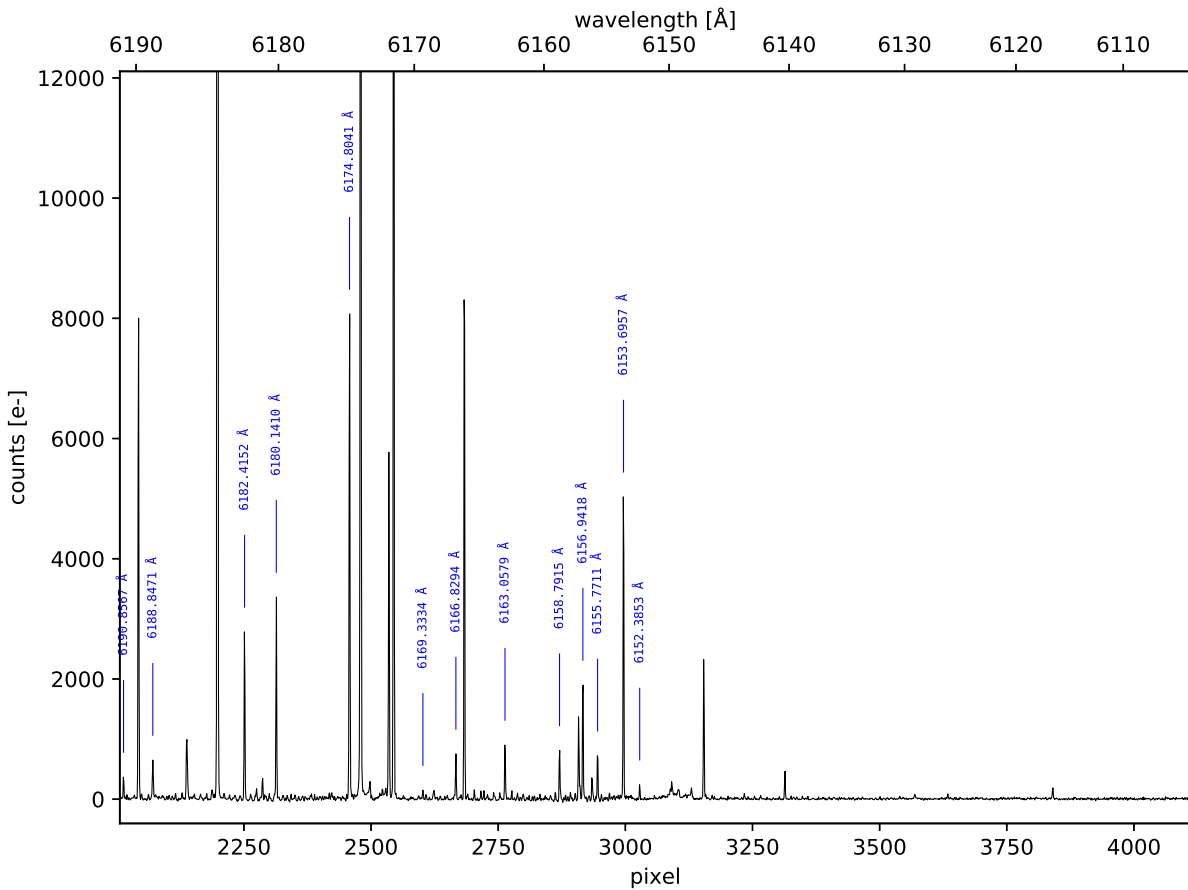


Cure ThAr lamp: Order 35 ($m = 99$; # lines = 25)

Order 35 ($m = 99$) - red part

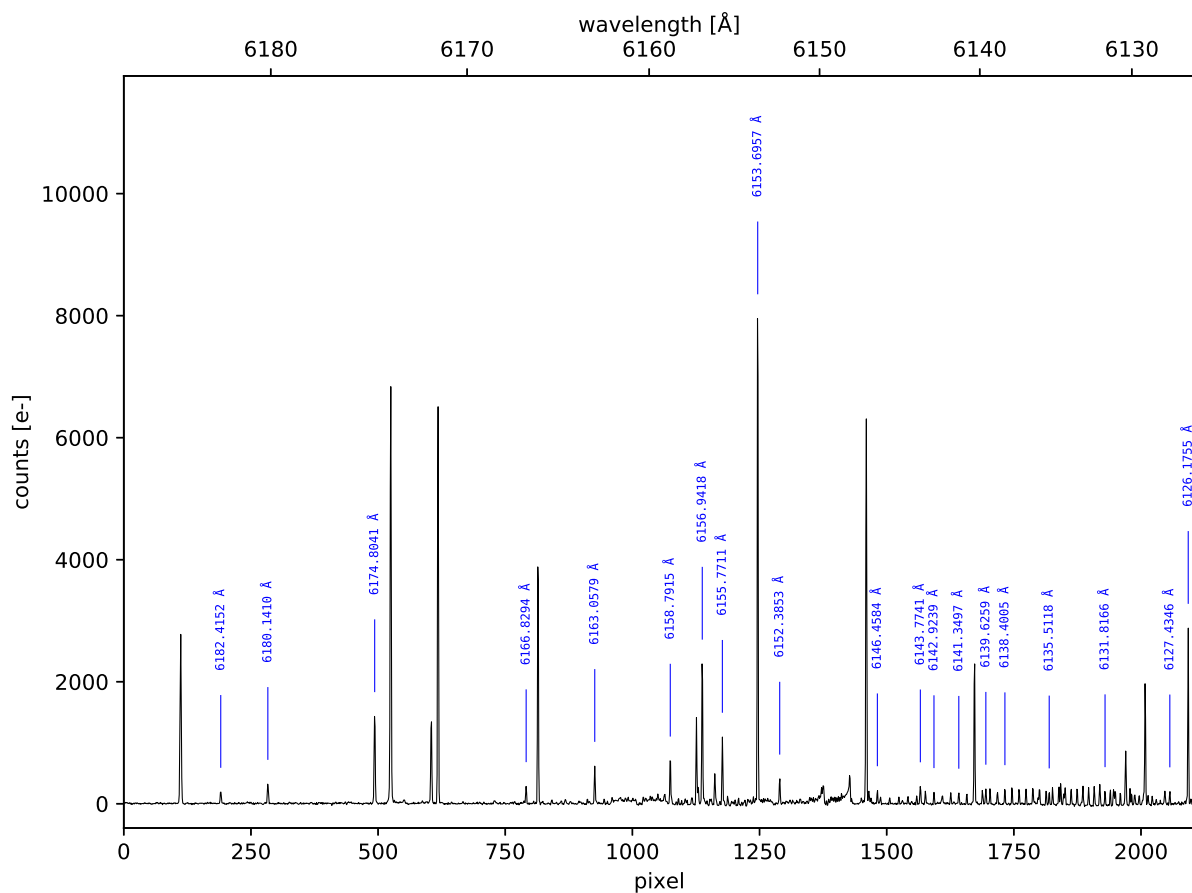


Order 35 ($m = 99$) - blue part

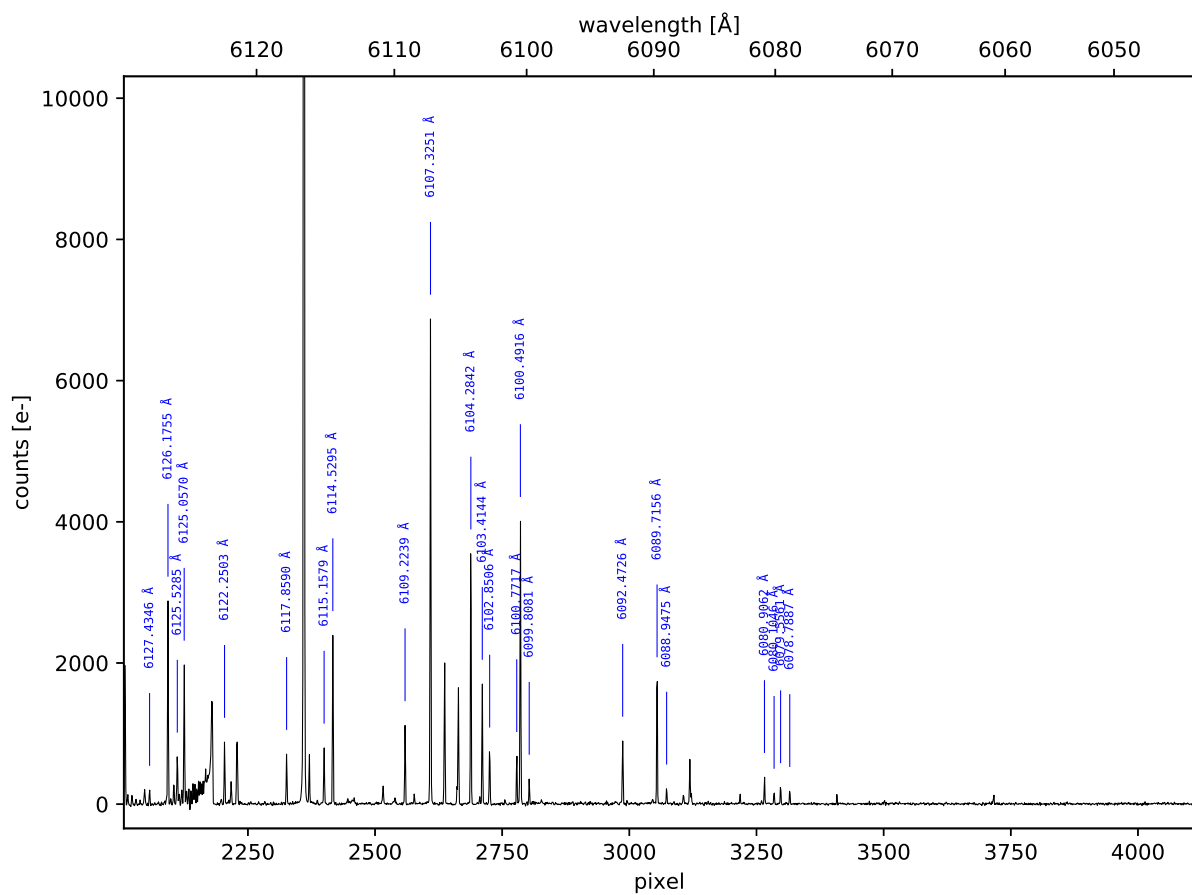


Cure ThAr lamp: Order 36 ($m = 100$; # lines = 41)

Order 36 ($m = 100$) - red part

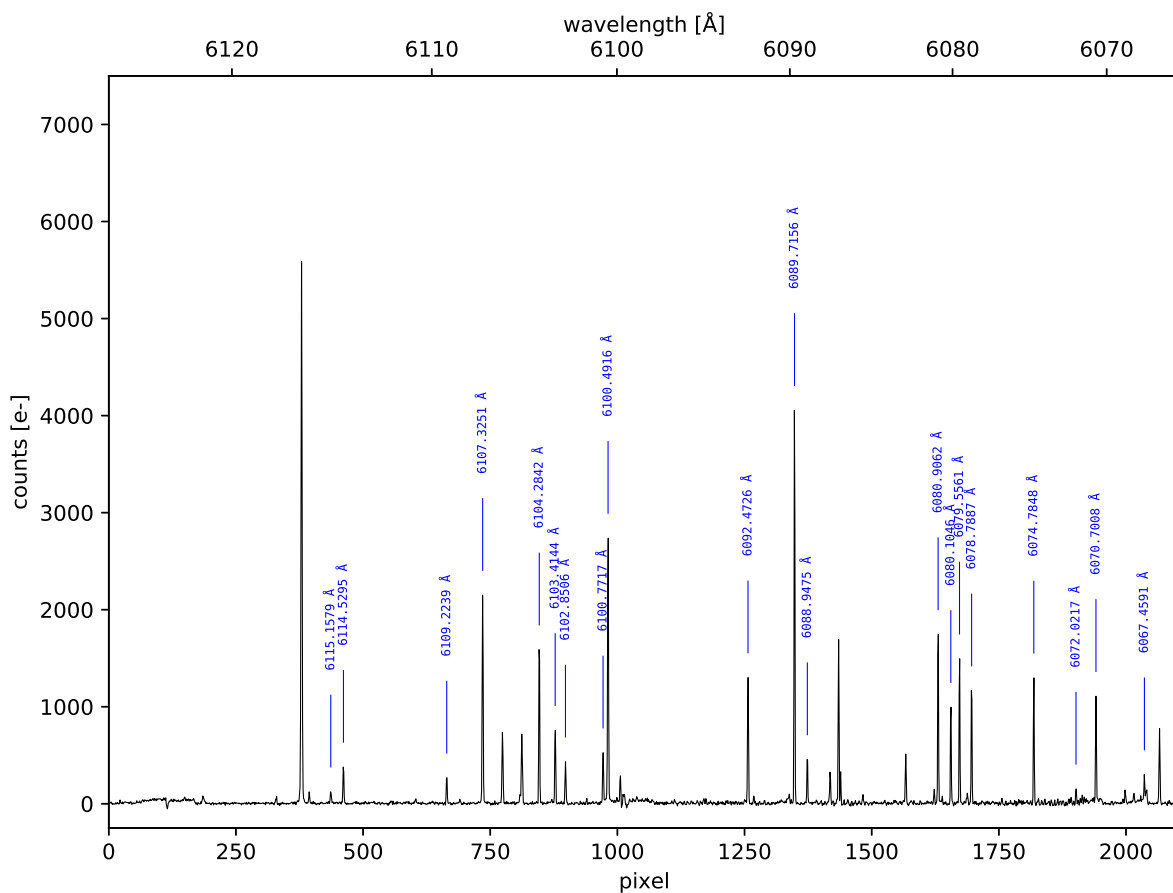


Order 36 ($m = 100$) - blue part

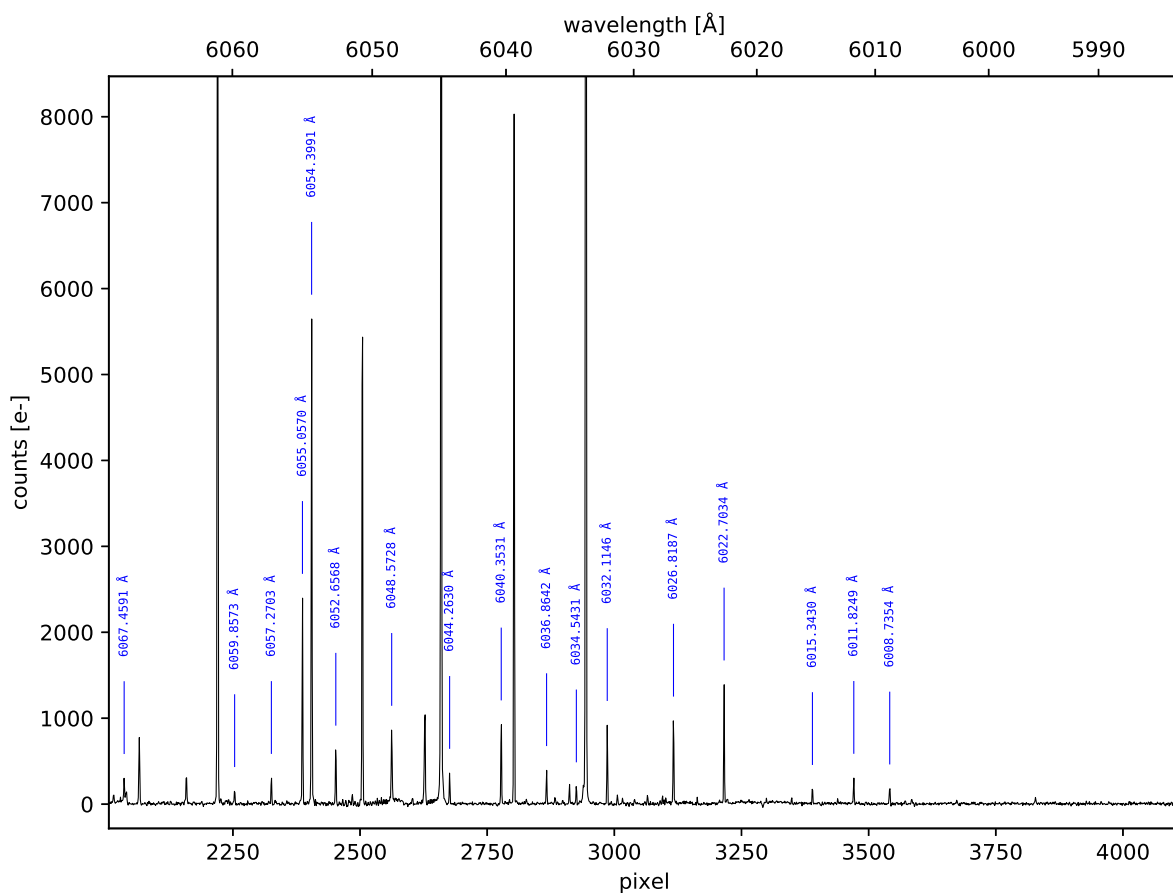


Cure ThAr lamp: Order 37 ($m = 101$; # lines = 36)

Order 37 ($m = 101$) - red part

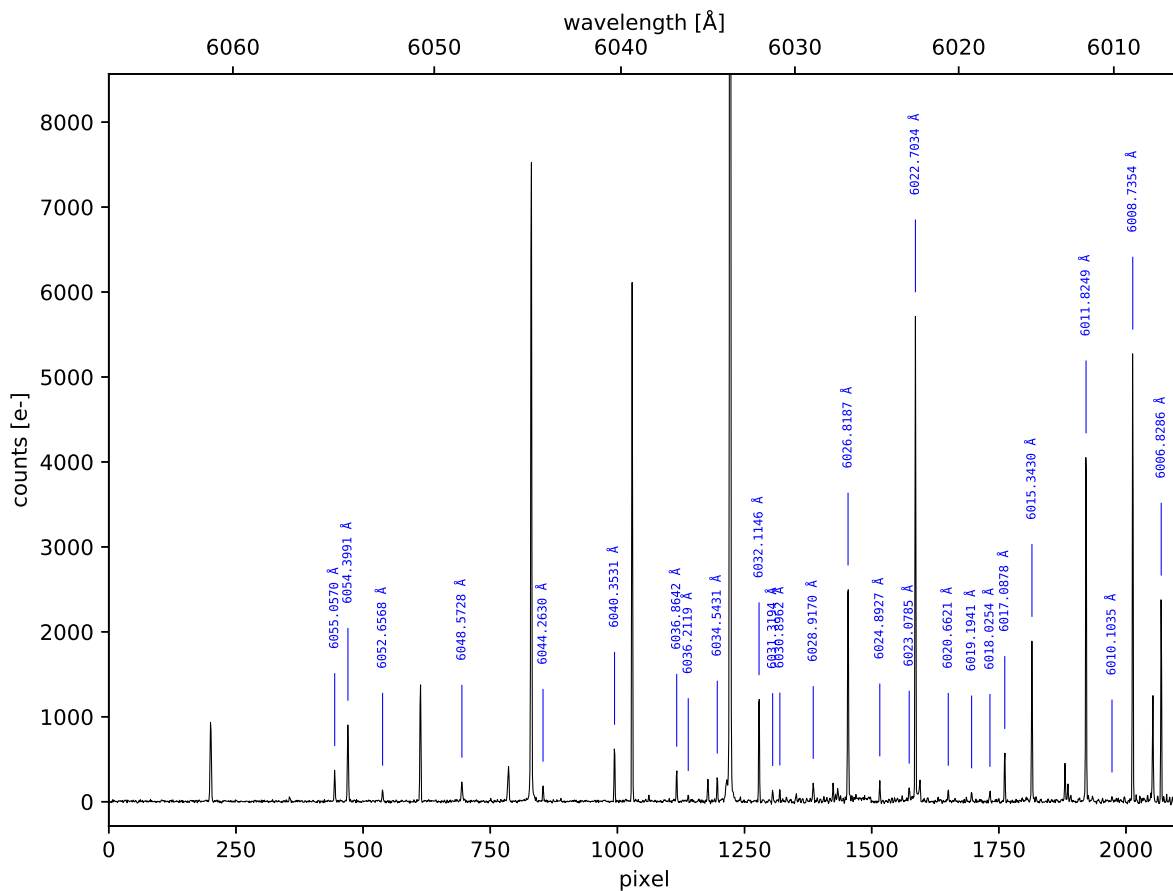


Order 37 ($m = 101$) - blue part

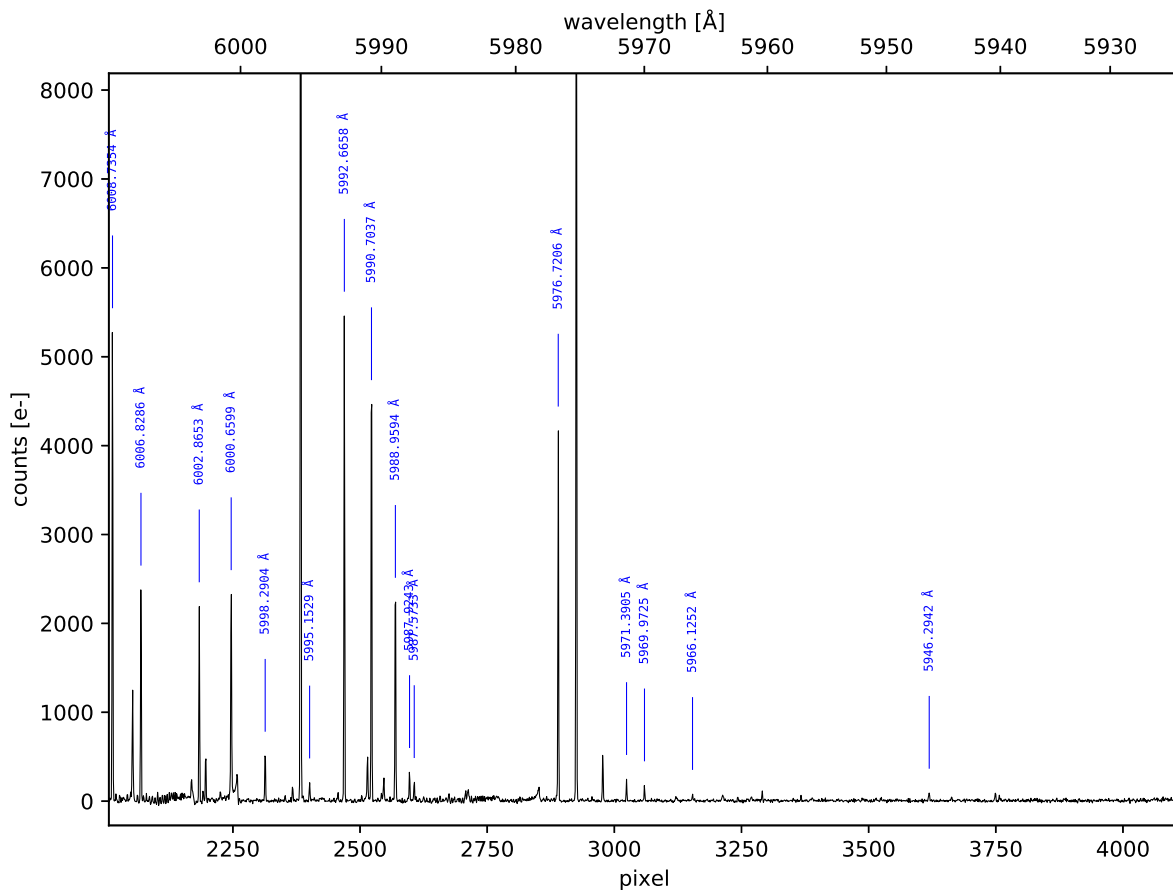


Cure ThAr lamp: Order 38 ($m = 102$; # lines = 40)

Order 38 ($m = 102$) - red part

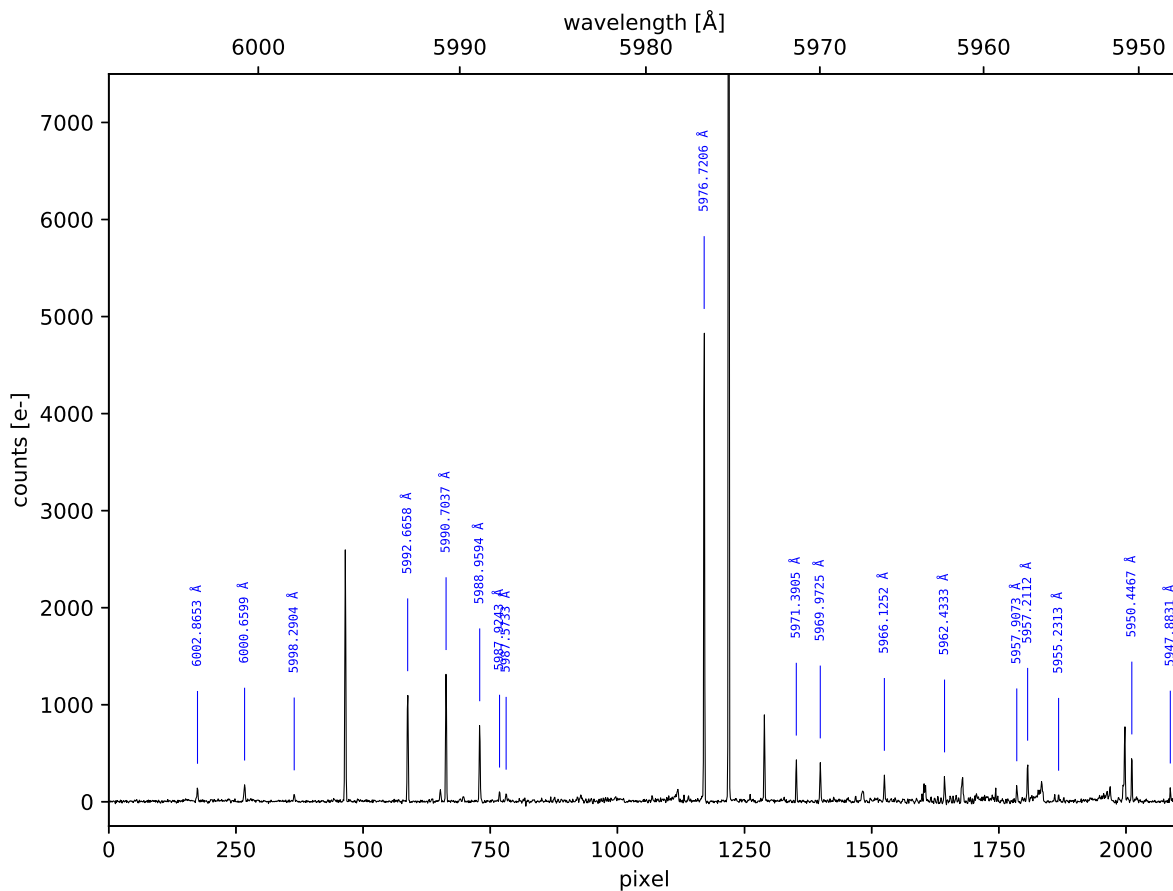


Order 38 ($m = 102$) - blue part



Cure ThAr lamp: Order 39 ($m = 103$; # lines = 31)

Order 39 ($m = 103$) - red part



Order 39 ($m = 103$) - blue part

