



Molecular identification of microorganisms

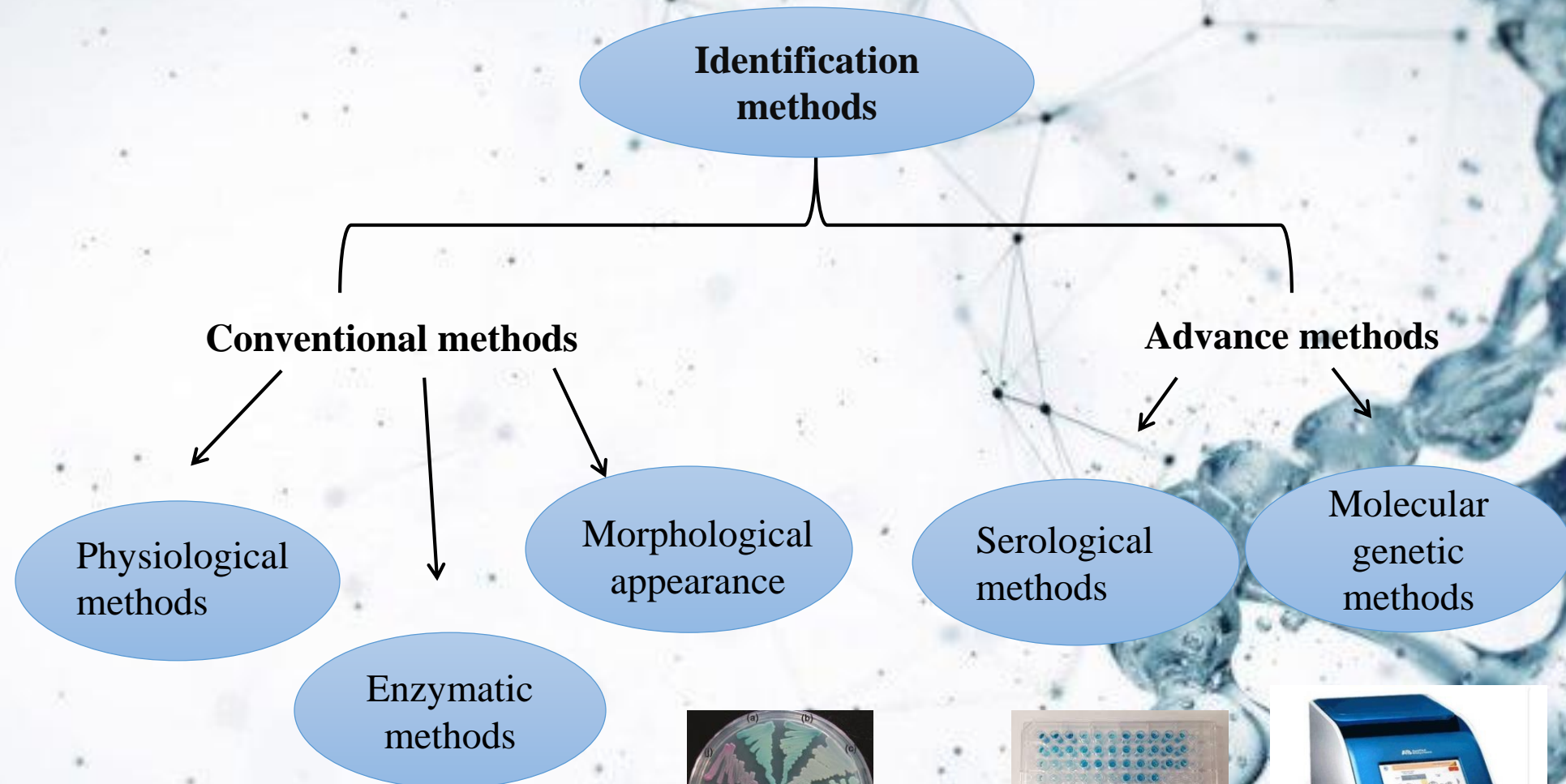
By

Dr. Ayat Al-laeiby

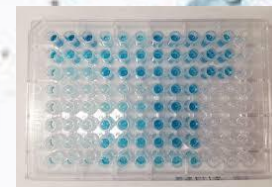
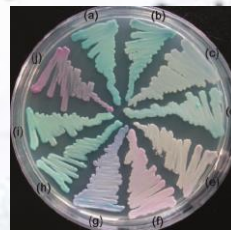
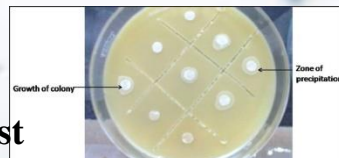
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General identification methods



carbohydrate assimilation test



**Molecular
genetic
methods**

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graph TD; A([Molecular genetic methods]) --- B([RFLP]); A --- C([RAPD]); A --- D([Sequencing]);
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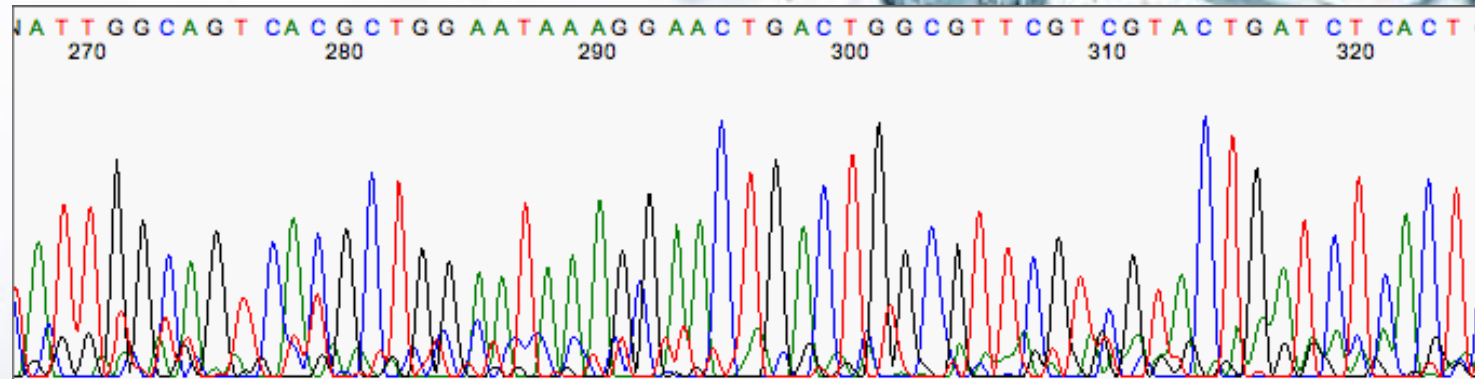
RFLP

RAPD

Sequencing

DNA Sequencing

- Sequencing process employ to study the genomes and encoded protein.
- It is utilised to investigate the mutations and their influence on encoding protein.



- * **Download Chroma 2.2.6 in your PC**

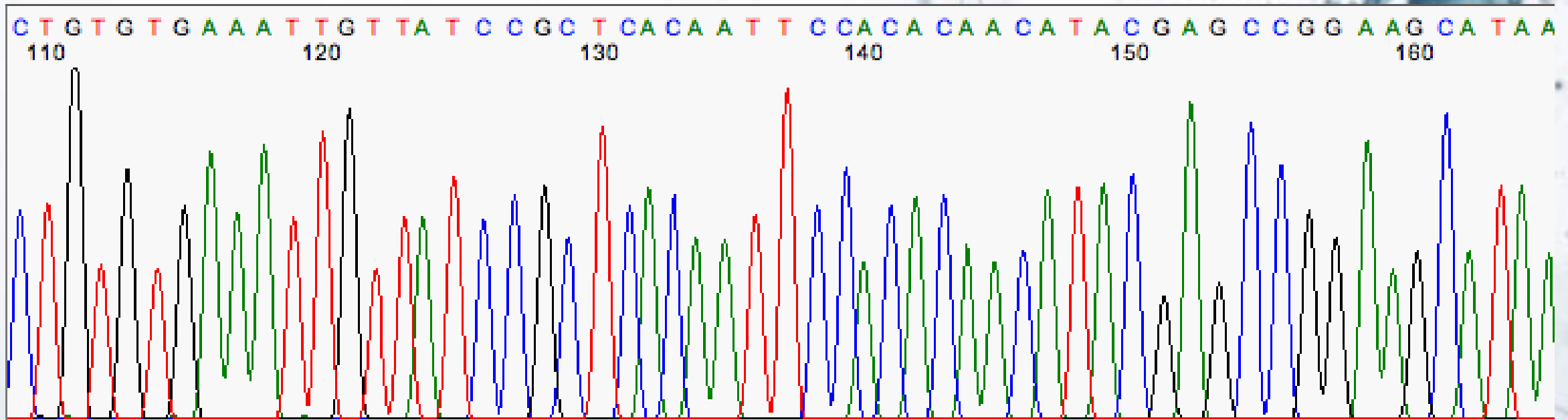
The screenshot shows a Windows File Explorer window titled 'Extract' for a folder named '190806FN-107'. The window displays a list of files with the following columns: Name, Type, Compressed size, Password, Size, Ratio, and Date modified. The files listed are:

| Name | Type | Compressed size | Password | Size | Ratio | Date modified |
|------------------------------------|-----------------------|-----------------|----------|--------|-------|---------------|
| 190812-036_A02_JTSF63 ITS1 | Chromatogram File | 109 KB | No | 213 KB | 49% | |
| 190812-036_A02_JTSF63 ITS1 | File Explorer Command | 31 KB | No | 95 KB | 68% | |
| 190812-036_A02_JTSF63 ITS1.ab1.seq | SEQ File | 1 KB | No | 1 KB | 61% | |
| 190812-036_A02_JTSF63 ITS1.phd.1 | 1 File | 4 KB | No | 10 KB | 65% | |
| 190812-036_A04_JTSF71 ITS1 | Chromatogram File | 104 KB | No | 201 KB | 49% | |
| 190812-036_A04_JTSF71 ITS1 | File Explorer Command | 27 KB | No | 83 KB | 69% | |
| 190812-036_A04_JTSF71 ITS1.ab1.seq | SEQ File | 1 KB | No | 1 KB | 59% | |
| 190812-036_A04_JTSF71 ITS1.phd.1 | 1 File | 4 KB | No | 9 KB | 65% | |
| 190812-036_A11_JTSF7 ITS1 | Chromatogram File | 99 KB | No | 171 KB | 43% | |
| 190812-036_A11_JTSF7 ITS1 | File Explorer Command | 23 KB | No | 55 KB | 59% | |
| 190812-036_A11_JTSF7 ITS1.ab1.seq | SEQ File | 1 KB | No | 1 KB | 56% | |
| 190812-036_A11_JTSF7 ITS1.phd.1 | 1 File | 2 KB | No | 6 KB | 67% | |
| 190812-036_A13_JTSF15 ITS1 | Chromatogram File | 109 KB | No | 193 KB | 44% | |
| 190812-036_A13_JTSF15 ITS1 | File Explorer Command | 29 KB | No | 75 KB | 63% | |
| 190812-036_A13_JTSF15 ITS1.ab1.seq | SEQ File | 1 KB | No | 1 KB | 59% | |
| 190812-036_A13_JTSF15 ITS1.phd.1 | 1 File | 3 KB | No | 8 KB | 67% | |
| 190812-036_A15_JTSF23 ITS1 | Chromatogram File | 100 KB | No | 171 KB | 42% | |
| 190812-036_A15_JTSF23 ITS1 | File Explorer Command | 23 KB | No | 55 KB | 59% | |
| 190812-036_A15_JTSF23 ITS1.ab1.seq | SEQ File | 1 KB | No | 1 KB | 56% | |
| 190812-036_A15_JTSF23 ITS1.phd.1 | 1 File | 2 KB | No | 6 KB | 67% | |
| 190812-036_A17_JTSF31 ITS1 | Chromatogram File | 100 KB | No | 168 KB | 41% | |
| 190812-036_A17_JTSF31 ITS1 | File Explorer Command | 23 KB | No | 52 KB | 57% | |
| 190812-036_A17_JTSF31 ITS1.ab1.seq | SEQ File | 1 KB | No | 1 KB | 56% | |
| 190812-036_A17_JTSF31 ITS1.phd.1 | 1 File | 2 KB | No | 6 KB | 67% | |

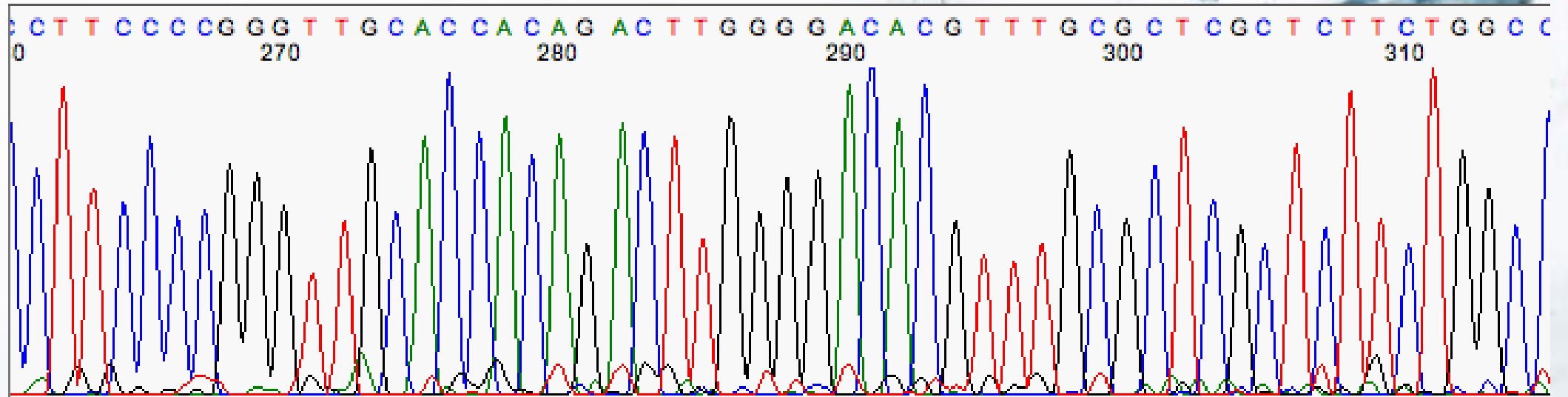
The taskbar at the bottom shows the search bar with the text 'Type here to search' and various application icons. The system tray on the right shows the time '00:38' and the date '30/04/2021'.

Sequence peaks

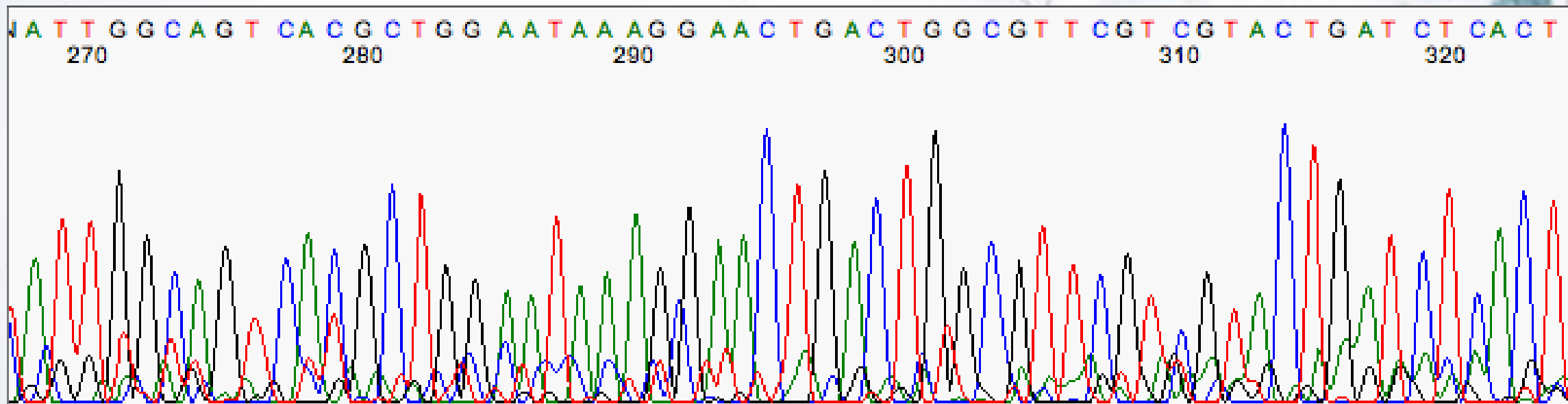
- **Excellent sequence**



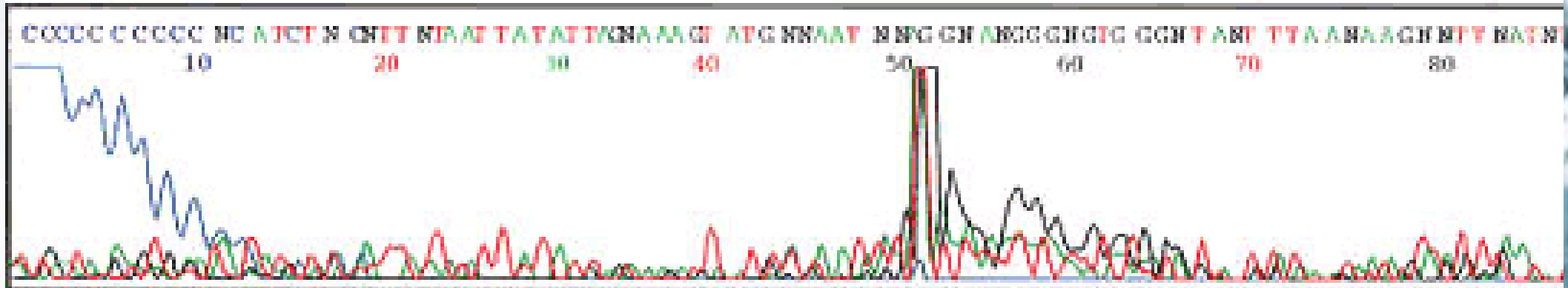
a little baseline noisebut the ‘real’ peaks are still easy to call, so there’s no problem



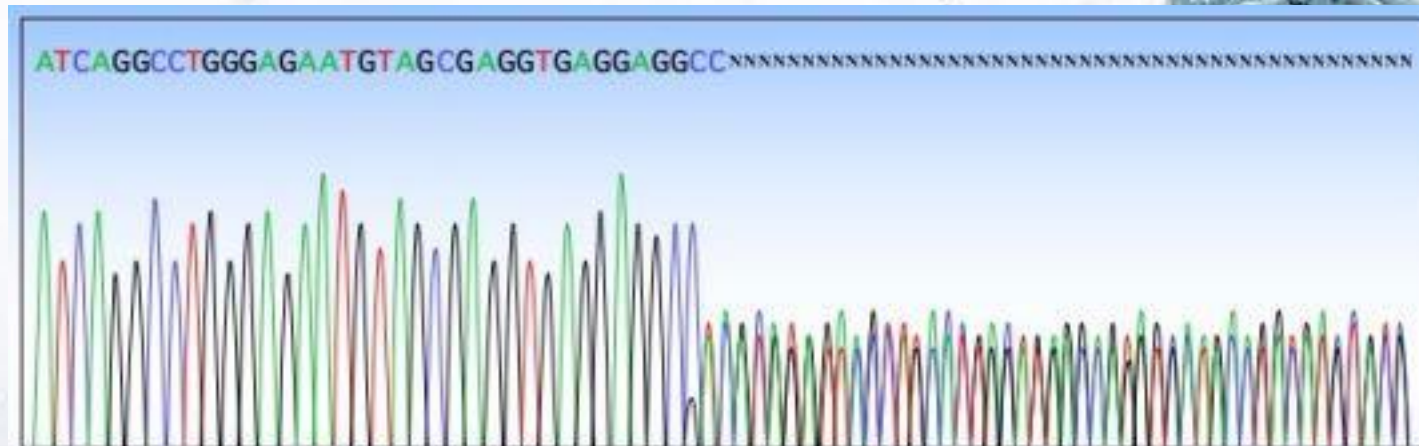
a bit too much noise



Complete failure. No signal present at all



Contamination



Sequence analysis software

**Chromas
pro**



***Chromas**



geneious