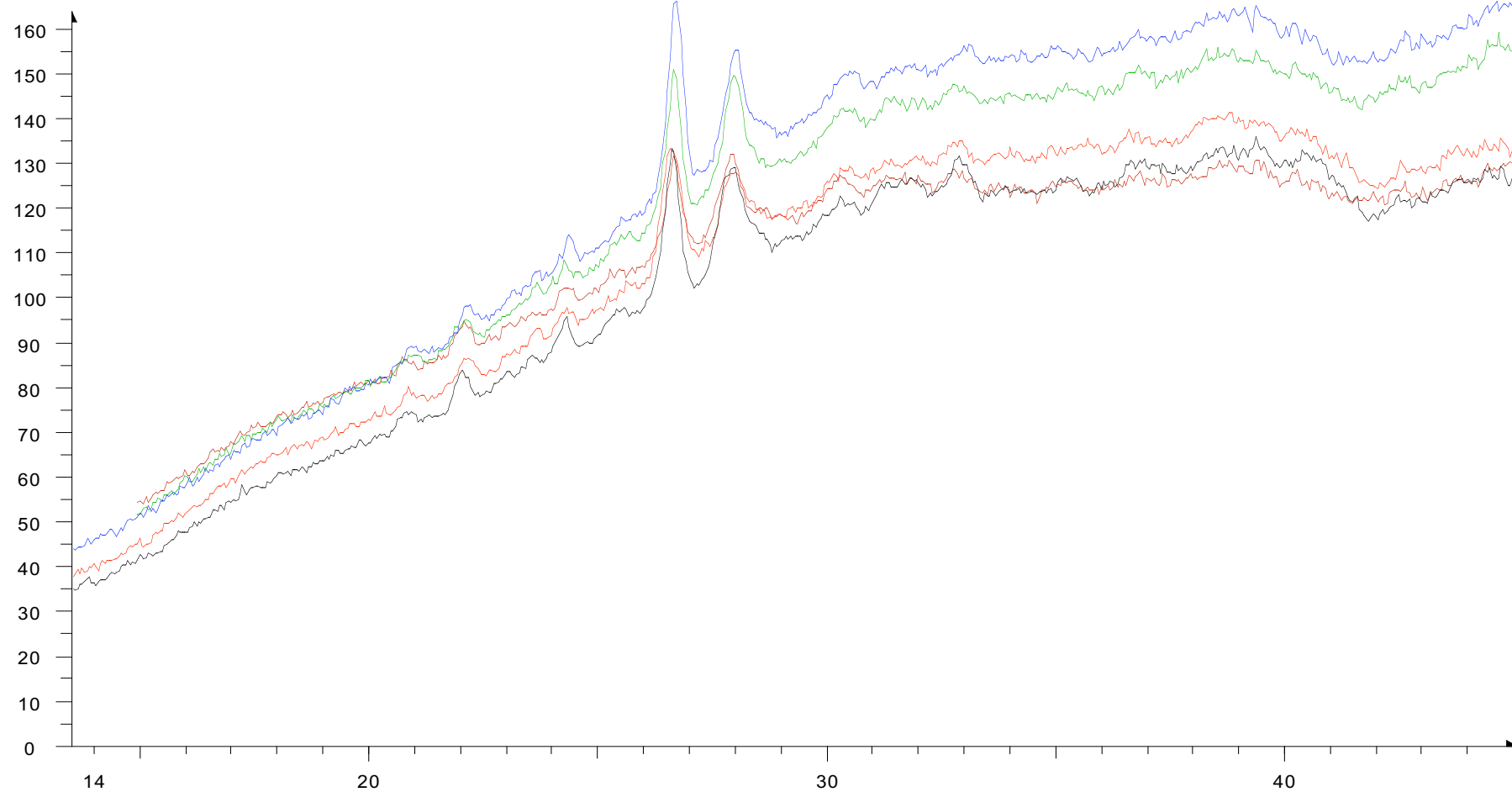


Sample ID:	TM2-1
Zone:	Upper alteration zone
Material identified:	Scorodite, primary silicates, primary sulfides, jarosite
Type of radiation	CuK <sub>1</sub> +K <sub>2</sub> = 1.54184Å
Power	40 kV x 40 mA
Type of scan	2 <sub>θ</sub> (2 Omega)
Beam diameter	500 um
2 <sub>θ</sub> range	6° - 21.5°
Time	20 minutes

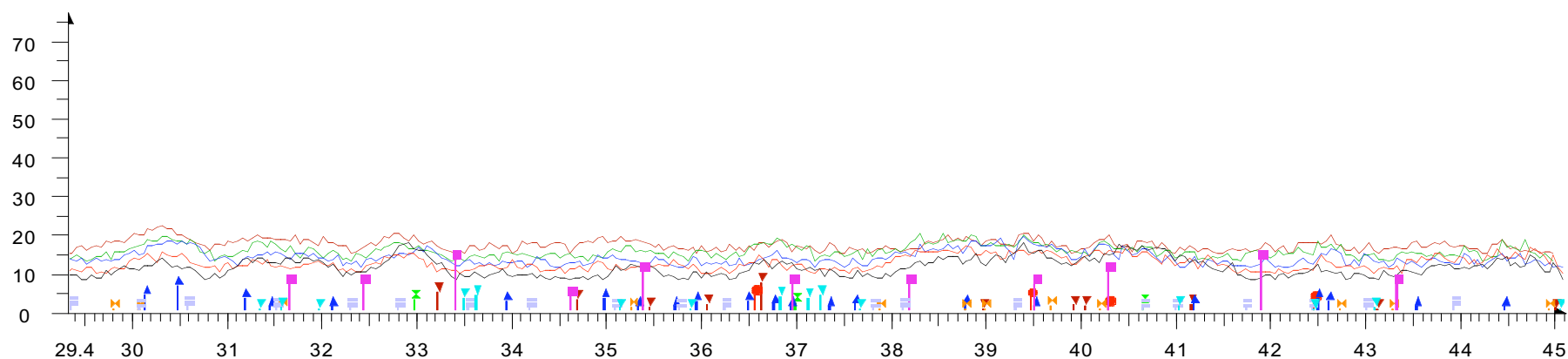
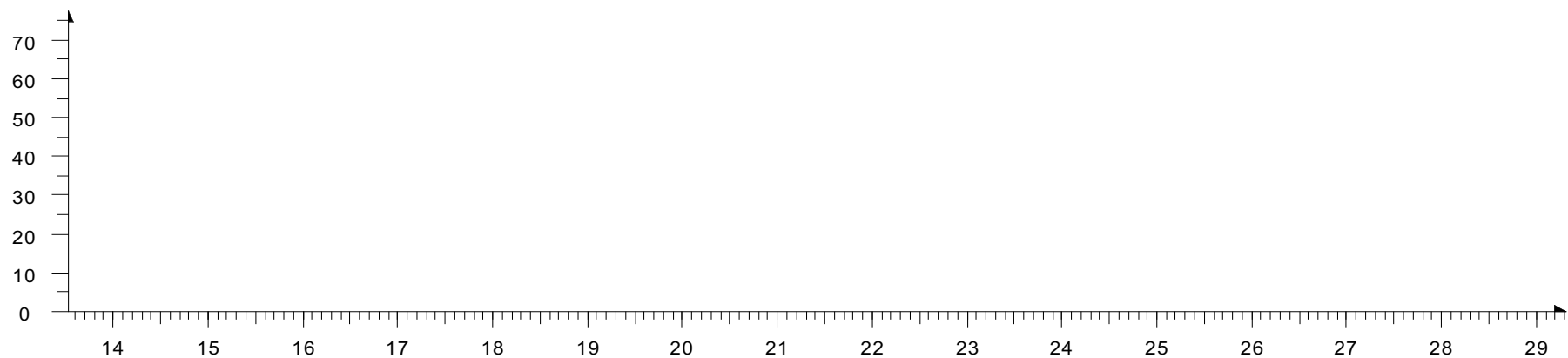
# SAMPLE / DIFFRACTOGRAM INVENTORY

Sample ID	Spot ID	Zone	Notes	Sample ID	Spot ID	Zone	Notes
TM2-1	1	1	Heterogeneous, opaque, yellowish / reddish brown material.	TM2-1	12	4	Heterogeneous reddish brown material.
TM2-1	2	1	Heterogeneous reddish brown red ball phase.	TM2-1	13	4	Red ball with abundant gypsum crystals.
TM2-1	3	1	Yellowish brown material.	TM2-1	14	4	?
			Light to medium reddish brown heterogeneous material.	TM2-1	15	4	Heterogeneous AISA spherule.
TM2-1	4	1		TM2-1	16	5	ZONED MATERIAL WITH JAROSITE INCLUSIONS.
TM2-1	5	1	Heterogeneous AISA spherule.	TM2-1	17	5	ZONED MATERIAL WITH JAROSITE INCLUSIONS.
TM2-1	6	3	Heterogeneous, opaque, yellowish brown material.	TM2-1	18	5	Yellowish green material that readily diffuses light.
			Diffuse yellowish green material surrounded by red balls. WEIRD GREEN PATCH!	TM2-1	19	5	Orangish reddish brown material.
TM2-1	7	3		TM2-1	20	5	Cluster of red balls and medium red material.
TM2-1	8	3	Heterogeneous, dark reddish brown material.	TM2-1	21	7	Grey, semialtered material.
TM2-1	9	3	RED BALL!		22	7	Heterogeneous reddish brown / red ball.
TM2-1	10	4	Black semialtered material.	TM2-1	23	7	Medium reddish brown altered material.
TM2-1	11	4	Red ball with yellowish core.	TM2-1	24	7	Diffuse grey green blob.



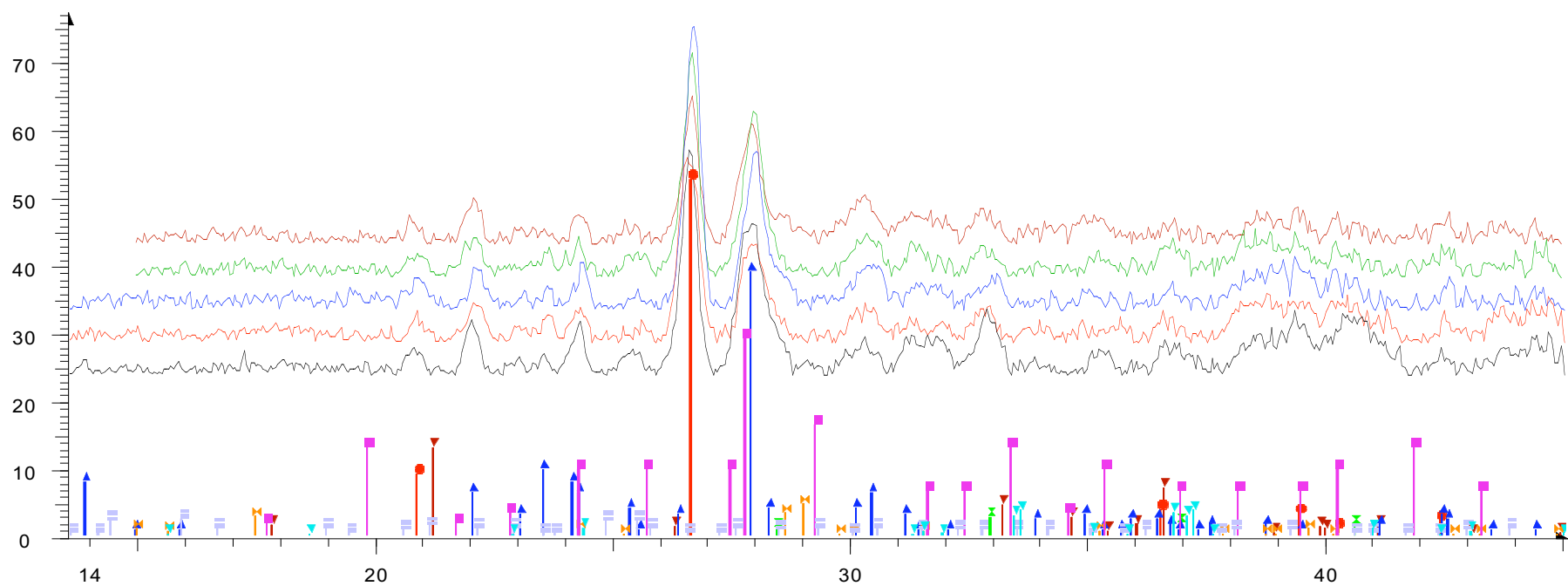
2-Theta - Scale

- File: KristinSLTM 2 1 01.raw
- Y + 1.0 mm - File: KristinSLTM 2 1 02.raw
- Y + 2.0 mm - File: KristinSLTM 2 1 03.raw
- Y + 3.0 mm - File: KristinSLTM 2 1 04.raw
- Y + 4.0 mm - File: KristinSLTM 2 1 05.raw



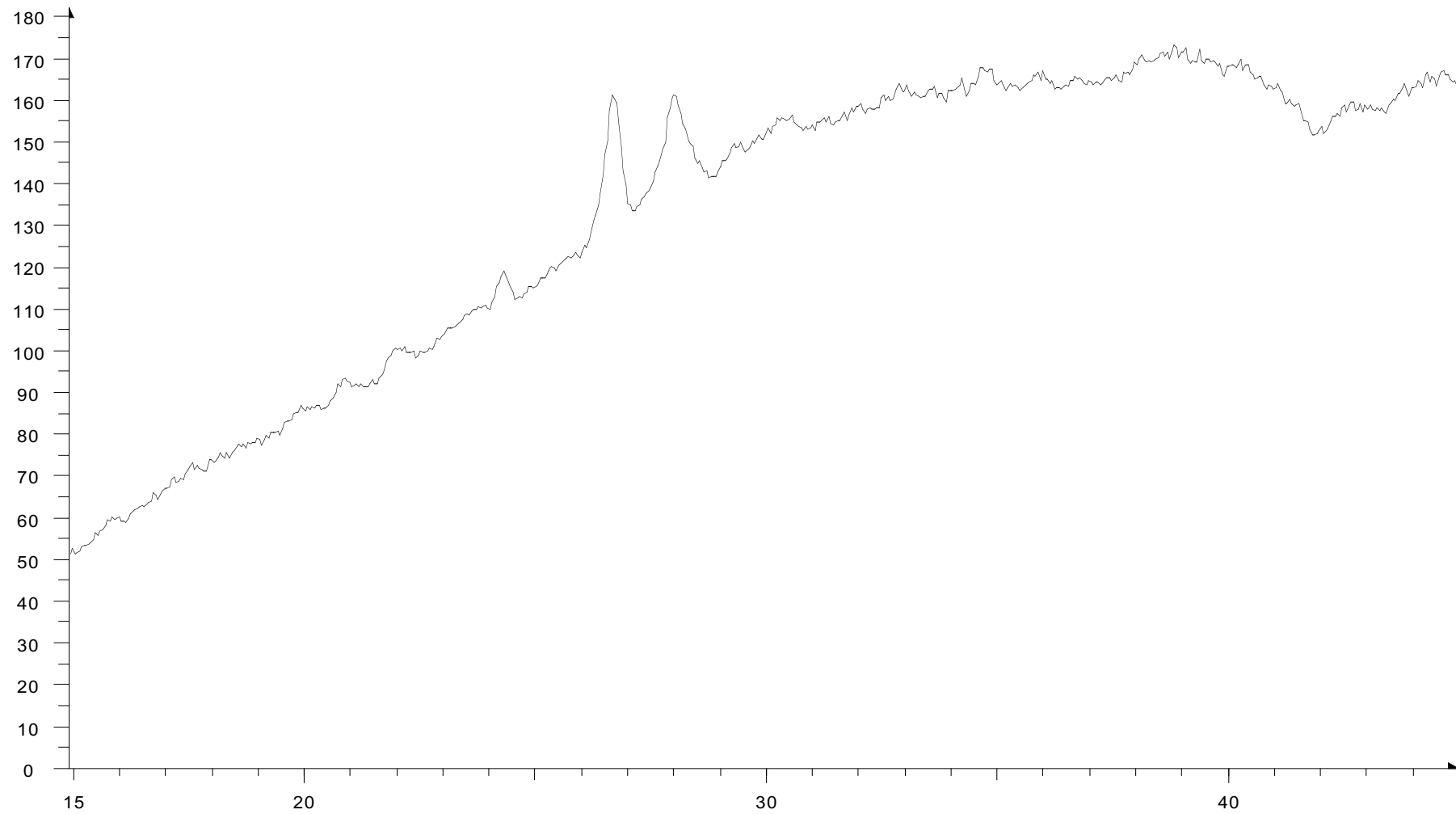
### 2-Theta - Scale

- |                                           |                                                         |
|-------------------------------------------|---------------------------------------------------------|
| Y + 5.0 mm - File: KristinSLTM 2 1 01.raw | 09-0466 (*) - Albite, ordered - NaAlSi3O8               |
| Y + 6.0 mm - File: KristinSLTM 2 1 02.raw | 36-0427 (*) - Jarosite, OH-rich - (K,H3O)Fe3(SO4)2(OH)6 |
| Y + 7.0 mm - File: KristinSLTM 2 1 03.raw | 44-1468 (N) - Tooeleite - Fe8(AsO4)6(OH)6·5H2O          |
| Y + 8.0 mm - File: KristinSLTM 2 1 04.raw | 35-0583 (I) - Copiapite - FeFe4(SO4)6(OH)2·20H2O        |
| Y + 9.0 mm - File: KristinSLTM 2 1 05.raw | 42-1320 (I) - Arsenooxvrite - FeAsS                     |
| 81-0462 (C) - Goethite, svn - FeO(OH)     |                                                         |
| 85-0796 (C) - Quartz - SiO2               |                                                         |
| 71-0053 (C) - Pvrite - FeS2               |                                                         |

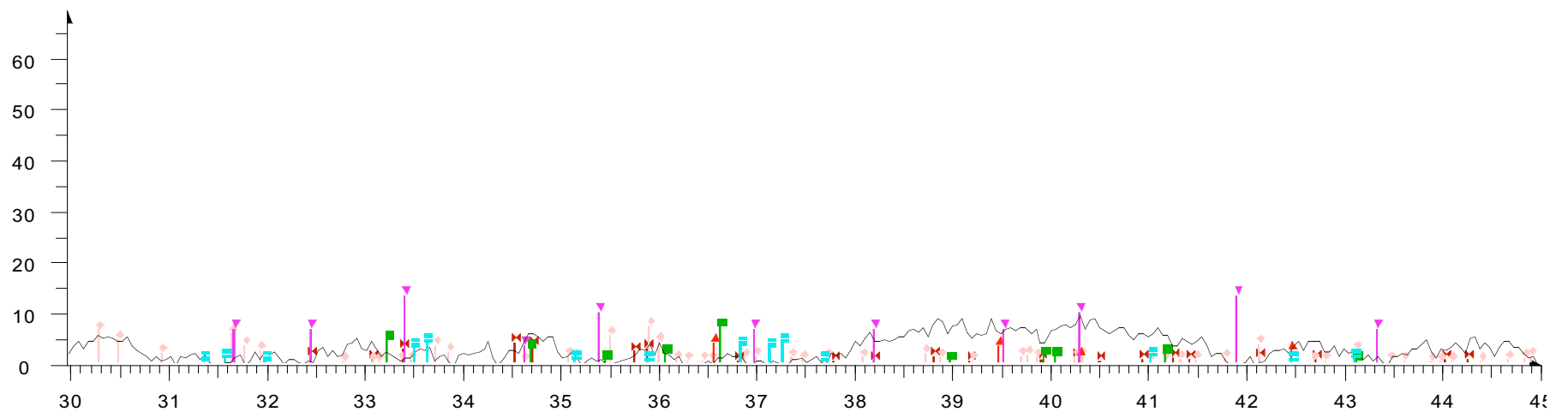
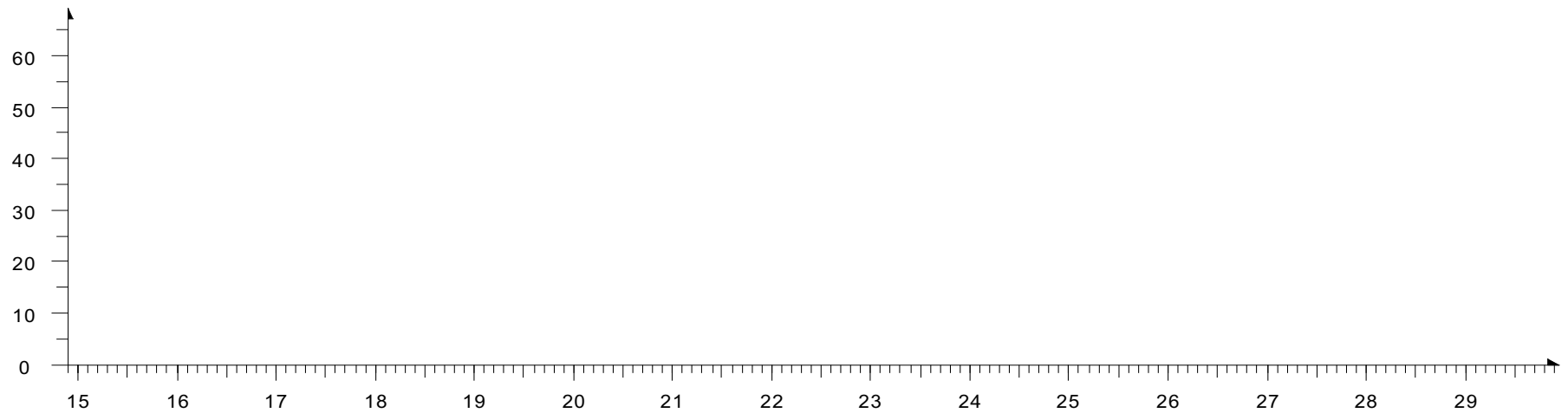


## 2-Theta - Scale

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Y + 25.0 mm - File: KristinSLTM 2 1 01.raw</li> <li>Y + 30.0 mm - File: KristinSLTM 2 1 02.raw</li> <li>Y + 35.0 mm - File: KristinSLTM 2 1 03.raw</li> <li>Y + 40.0 mm - File: KristinSLTM 2 1 04.raw</li> <li>Y + 45.0 mm - File: KristinSLTM 2 1 05.raw</li> <li>81-0462 (C) - Goethite, svn - FeO(OH)</li> <li>85-0796 (C) - Quartz - SiO<sub>2</sub></li> <li>71-0053 (C) - Pwrite - FeS<sub>2</sub></li> </ul> | <ul style="list-style-type: none"> <li>09-0466 (*) - Albite, ordered - NaAlSi<sub>3</sub>O<sub>8</sub></li> <li>36-0427 (*) - Jarosite, OH-rich - (K,H<sub>3</sub>O)Fe<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>(OH)<sub>6</sub></li> <li>44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O</li> <li>35-0583 (I) - Copiapite - FeFe<sub>4</sub>(SO<sub>4</sub>)<sub>6</sub>(OH)<sub>2</sub>·20H<sub>2</sub>O</li> <li>42-1320 (I) - Arsenooxvrite - FeAsS</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

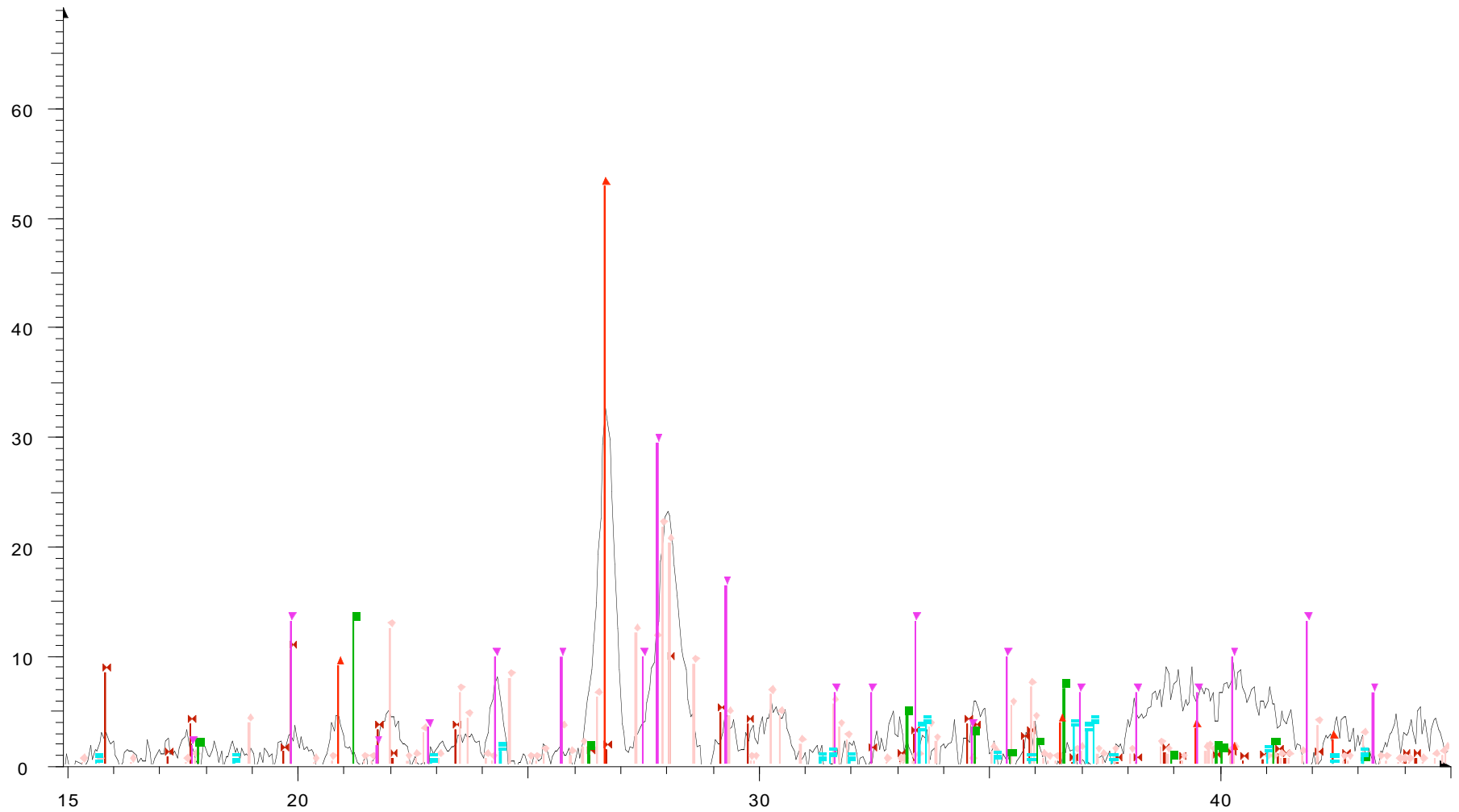


File: KristinSLTM 2 1 07.raw



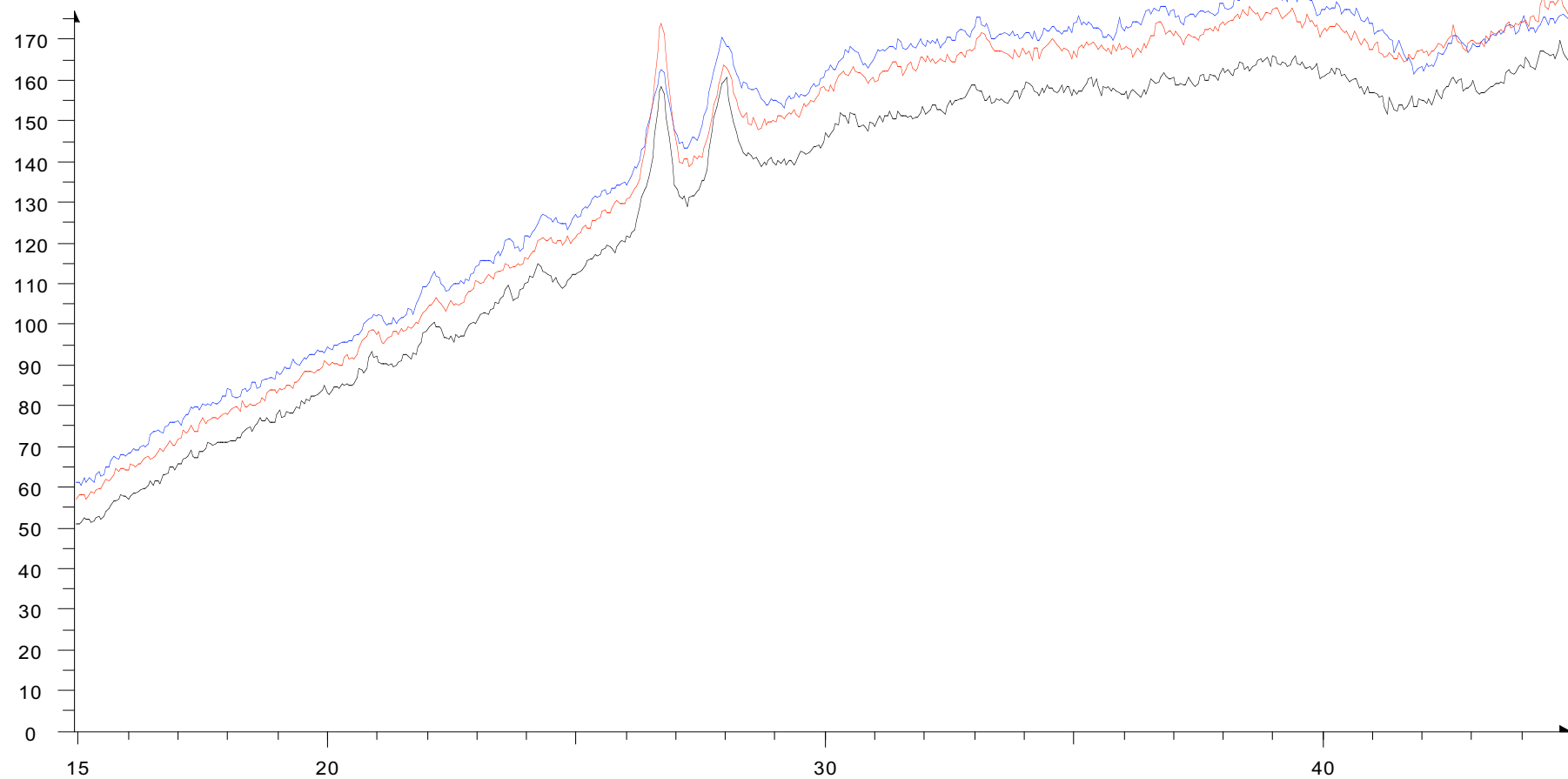
2-Theta - Scale

- File: KristinSLTM 2 1 07.raw
- 37-0468 (\*) - Scorodite -  $\text{FeAsO}_4 \cdot 2\text{H}_2\text{O}$
- 86-1705 (C) - Anorthite -  $\text{Ca}(\text{Al}_2\text{Si}_2\text{O}_8)$
- 81-0462 (C) - Goethite, svn -  $\text{FeO}(\text{OH})$
- 85-0796 (C) - Quartz -  $\text{SiO}_2$
- 44-1468 (N) - Tooeleite -  $\text{Fe}_8(\text{AsO}_4)_6(\text{OH})_6 \cdot 5\text{H}_2\text{O}$
- 42-1320 (I) - Arsenopyrite -  $\text{FeAsS}$



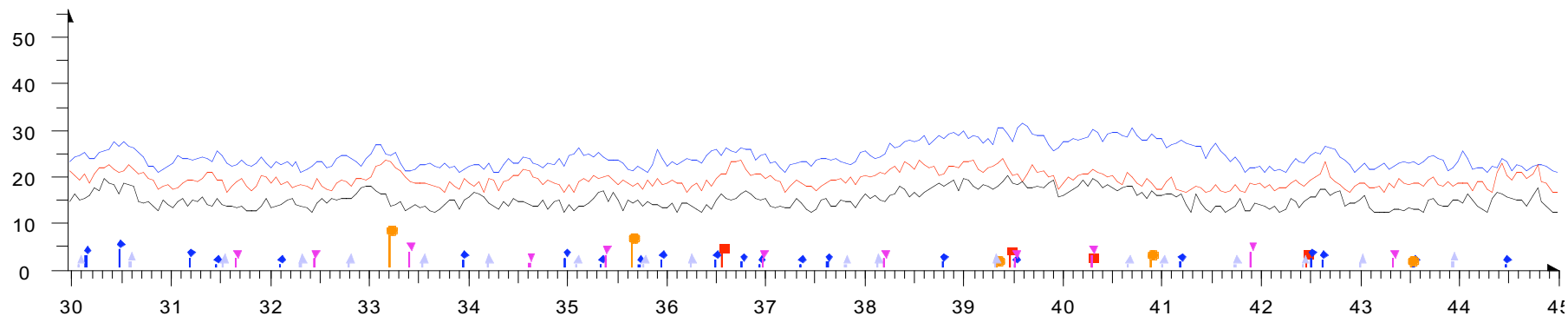
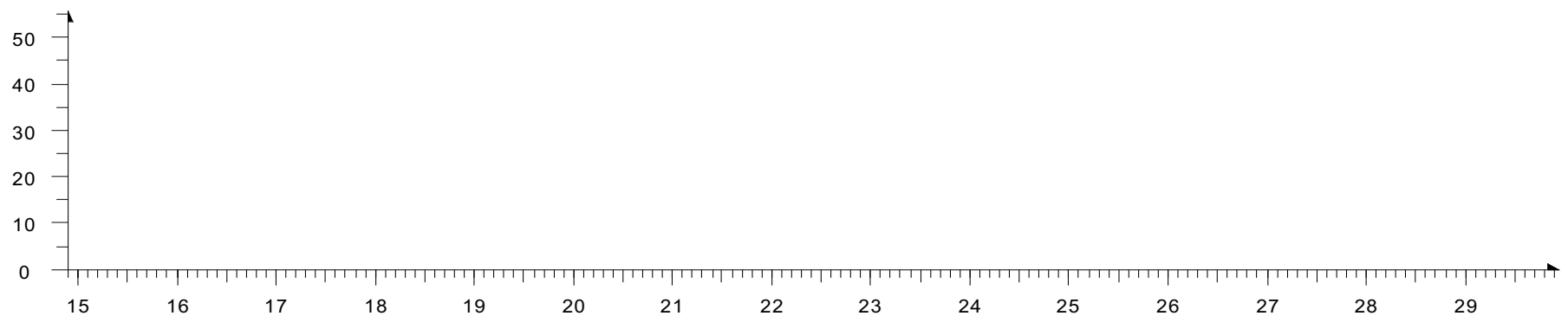
- File: KristinSLTM 2 1 07.raw
- 37-0468 (\*) - Scorodite -  $\text{FeAsO}_4 \cdot 2\text{H}_2\text{O}$
  - 86-1705 (C) - Anorthite -  $\text{Ca}(\text{Al}_2\text{Si}_2\text{O}_8)$
  - 81-0462 (C) - Goethite, svn -  $\text{FeO}(\text{OH})$
  - 85-0796 (C) - Quartz -  $\text{SiO}_2$
  - 44-1468 (N) - Tooeleite -  $\text{Fe}_8(\text{AsO}_4)_6(\text{OH})_6 \cdot 5\text{H}_2\text{O}$
  - 42-1320 (I) - Arsenopyrite -  $\text{FeAsS}$





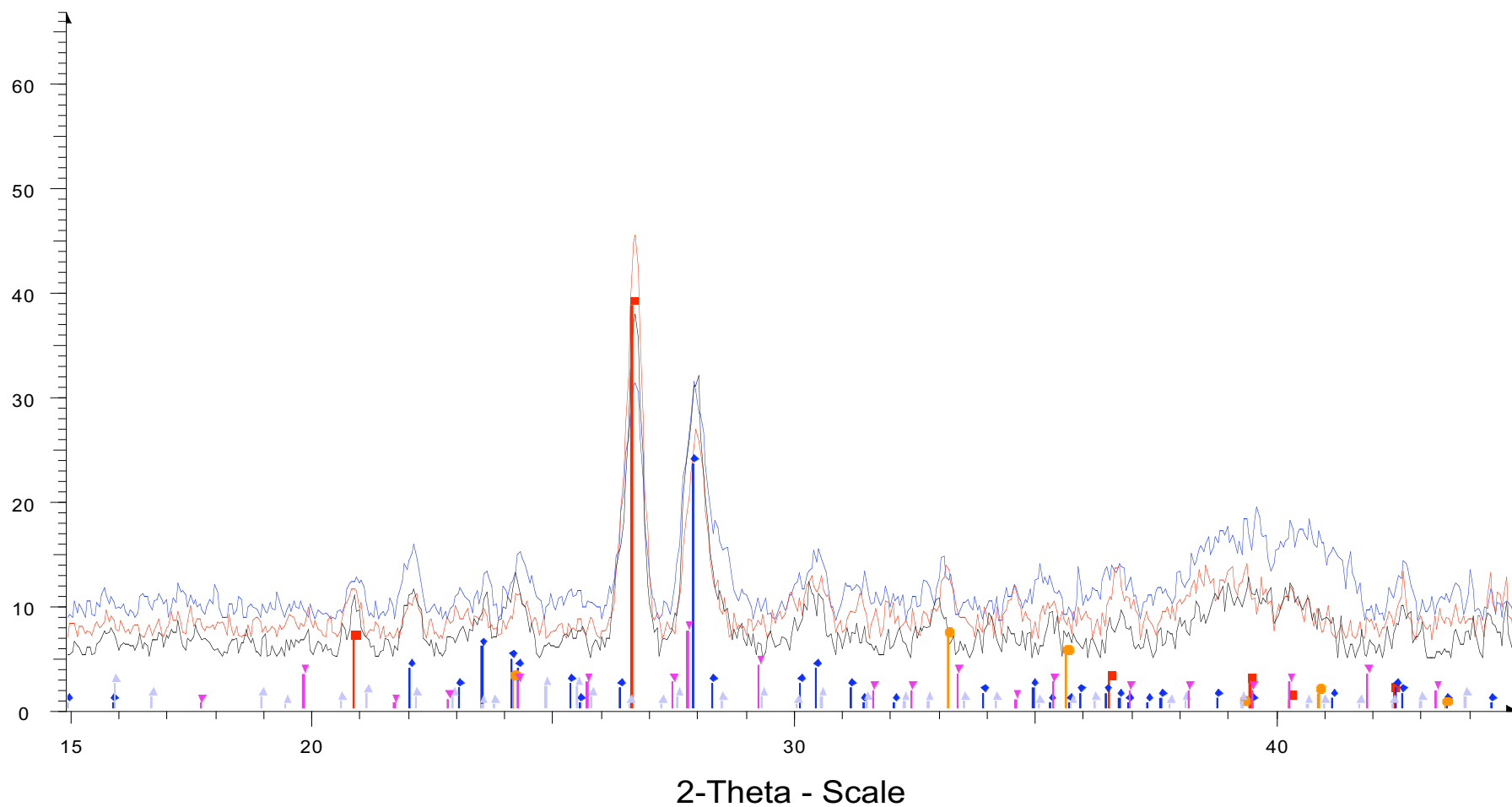
2-Theta - Scale

File: KristinSLTM 2 1 06.raw  
Y + 3.0 mm - File: KristinSLTM 2 1 08.raw  
Y + 6.0 mm - File: KristinSLTM 2 1 09.raw

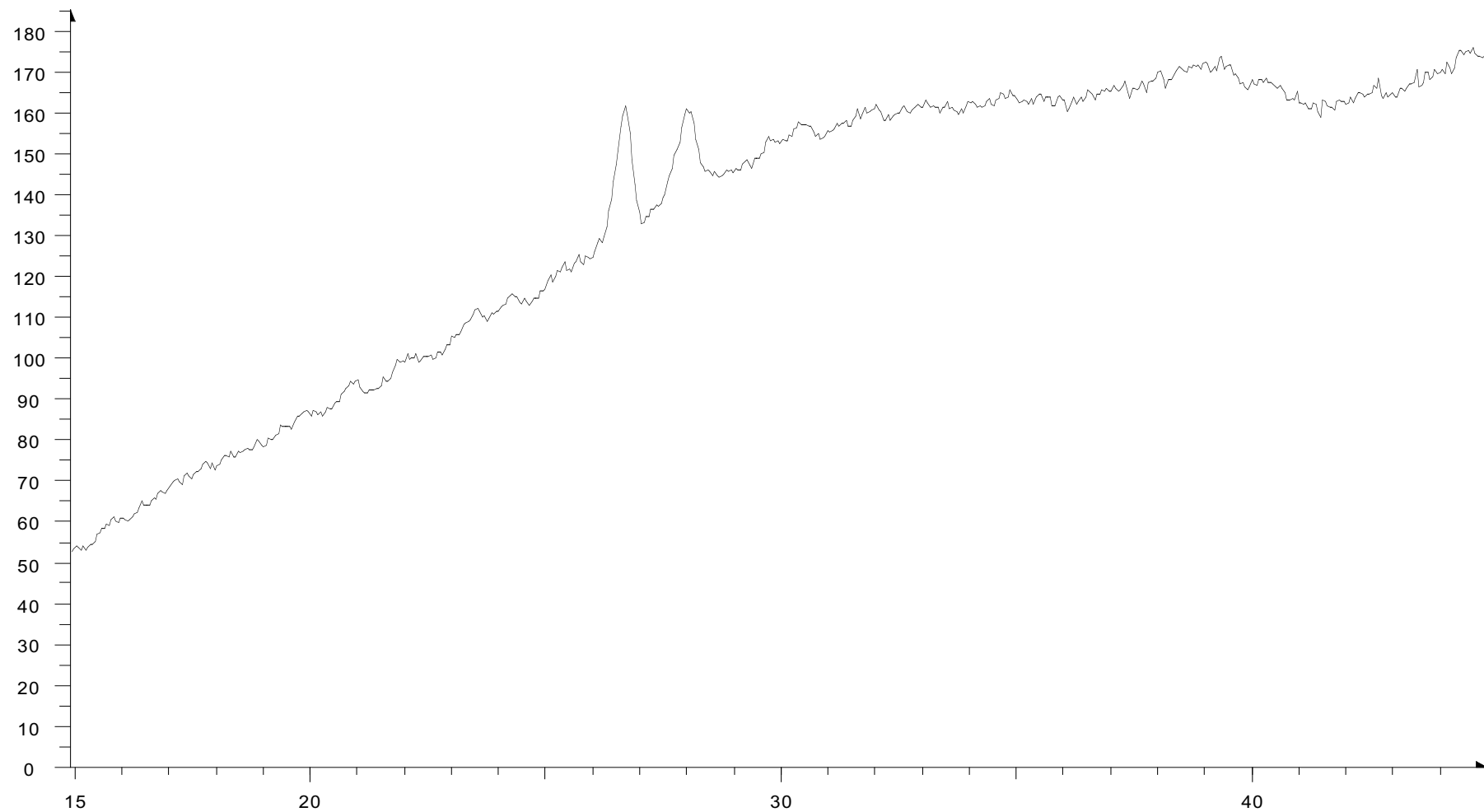


2-Theta - Scale

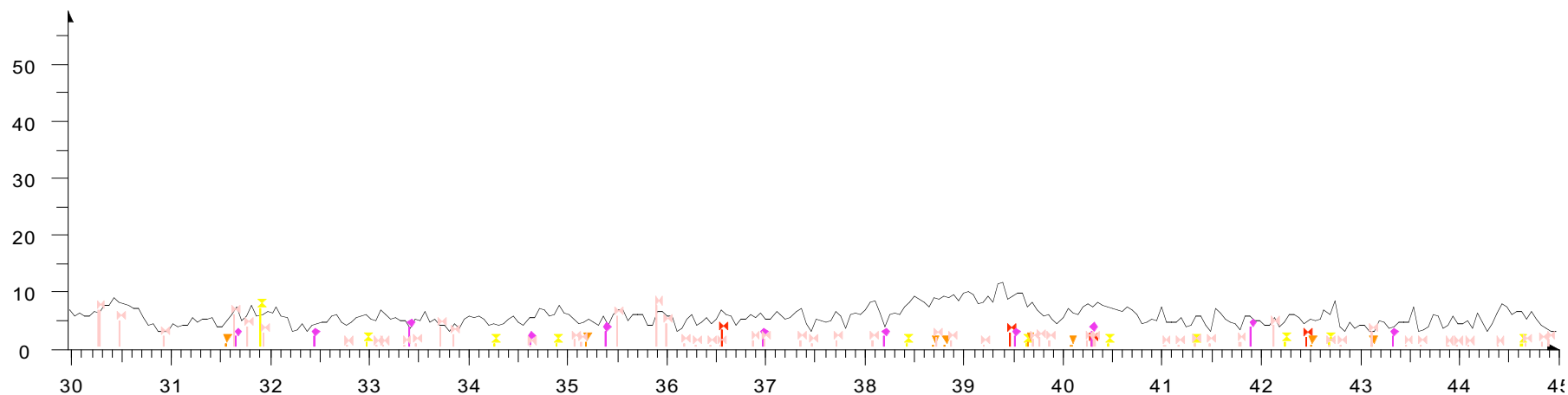
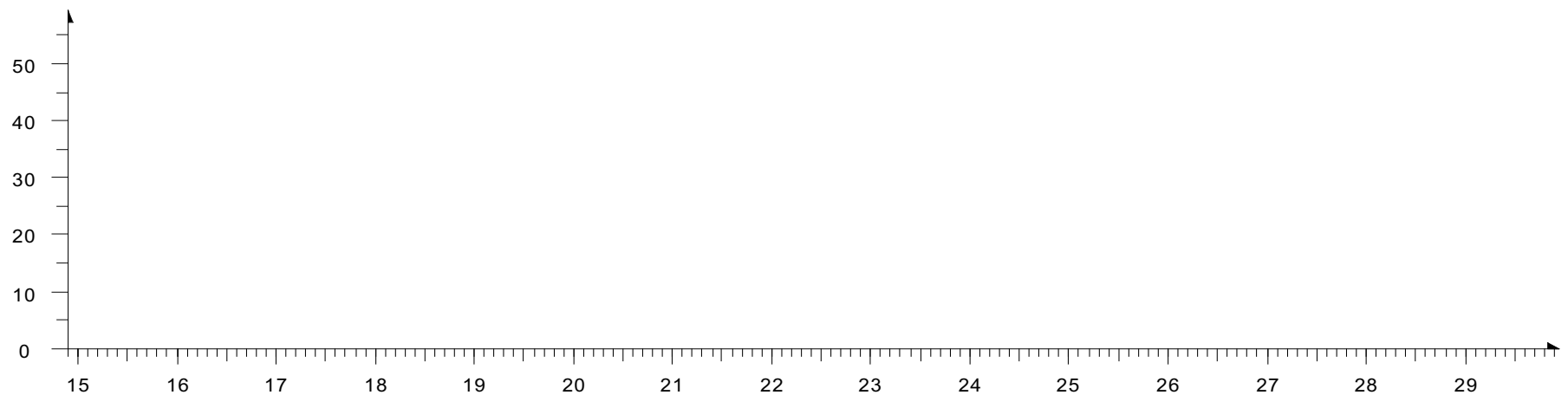
- Y + 9.0 mm - File: KristinSLTM 2 1 06.raw
- Y + 12.0 mm - File: KristinSLTM 2 1 08.raw
- Y + 15.0 mm - File: KristinSLTM 2 1 09.raw
- 85-0796 (C) - Quartz - SiO<sub>2</sub>
- 09-0466 (\*) - Albite, ordered - NaAlSi<sub>3</sub>O<sub>8</sub>
- 89-0599 (C) - Hematite, syn - Fe<sub>2</sub>O<sub>3</sub>
- 44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O
- 35-0583 (I) - Copiapite - FeFe<sub>4</sub>(SO<sub>4</sub>)<sub>6</sub>(OH)<sub>12</sub>·20H<sub>2</sub>O









- Y + 9.0 mm - File: KristinSLTM 2 1 06.raw  
Y + 12.0 mm - File: KristinSLTM 2 1 08.raw  
Y + 15.0 mm - File: KristinSLTM 2 1 09.raw  
85-0796 (C) - Quartz - SiO2  
09-0466 (\*) - Albite, ordered - NaAlSi3O8  
89-0599 (C) - Hematite, syn - Fe2O3  
44-1468 (N) - Tooeleite - Fe8(AsO4)6(OH)6·5H2O  
35-0583 (I) - Copiapite - FeFe4(SO4)6(OH)12·20H2O

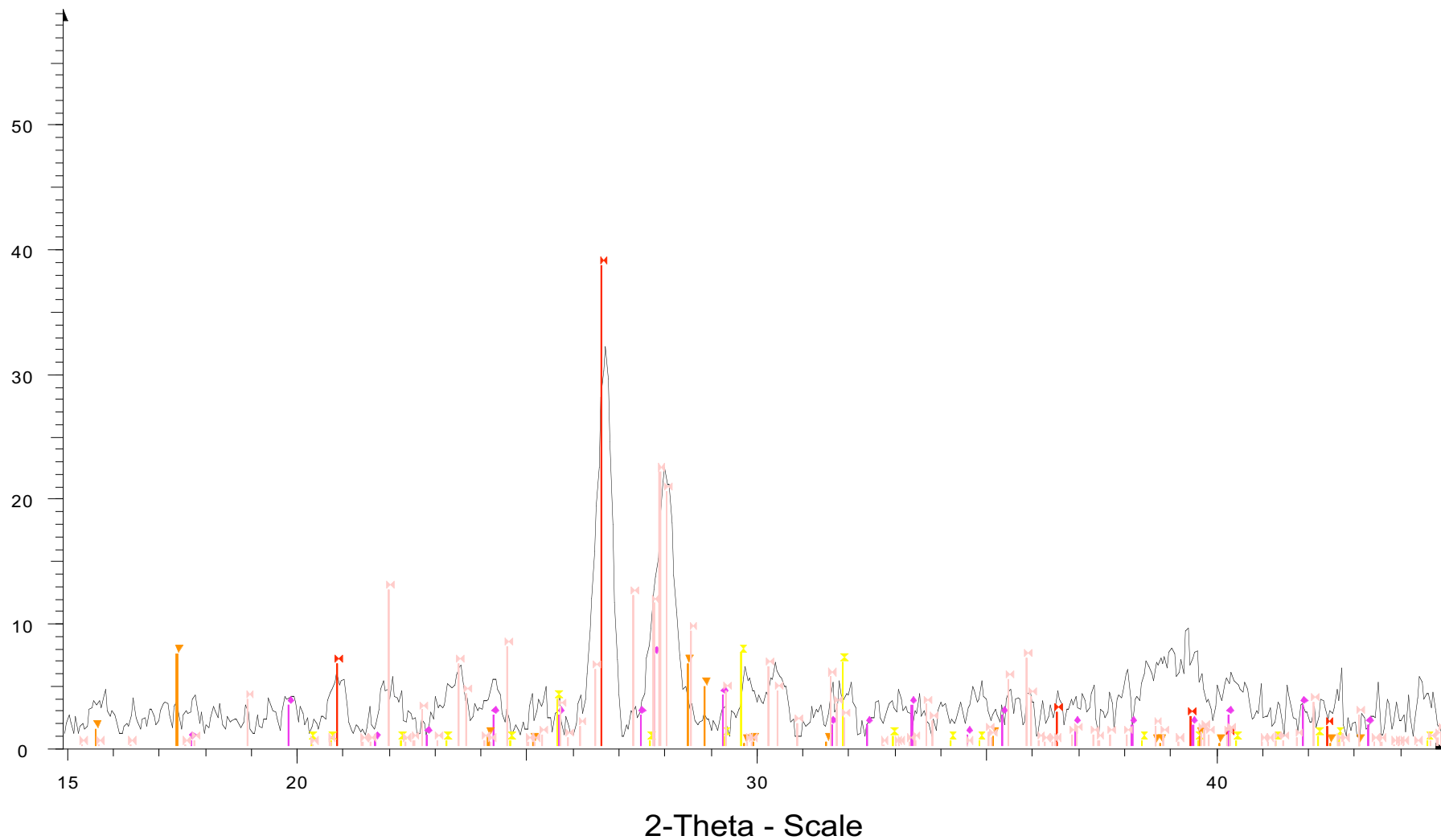


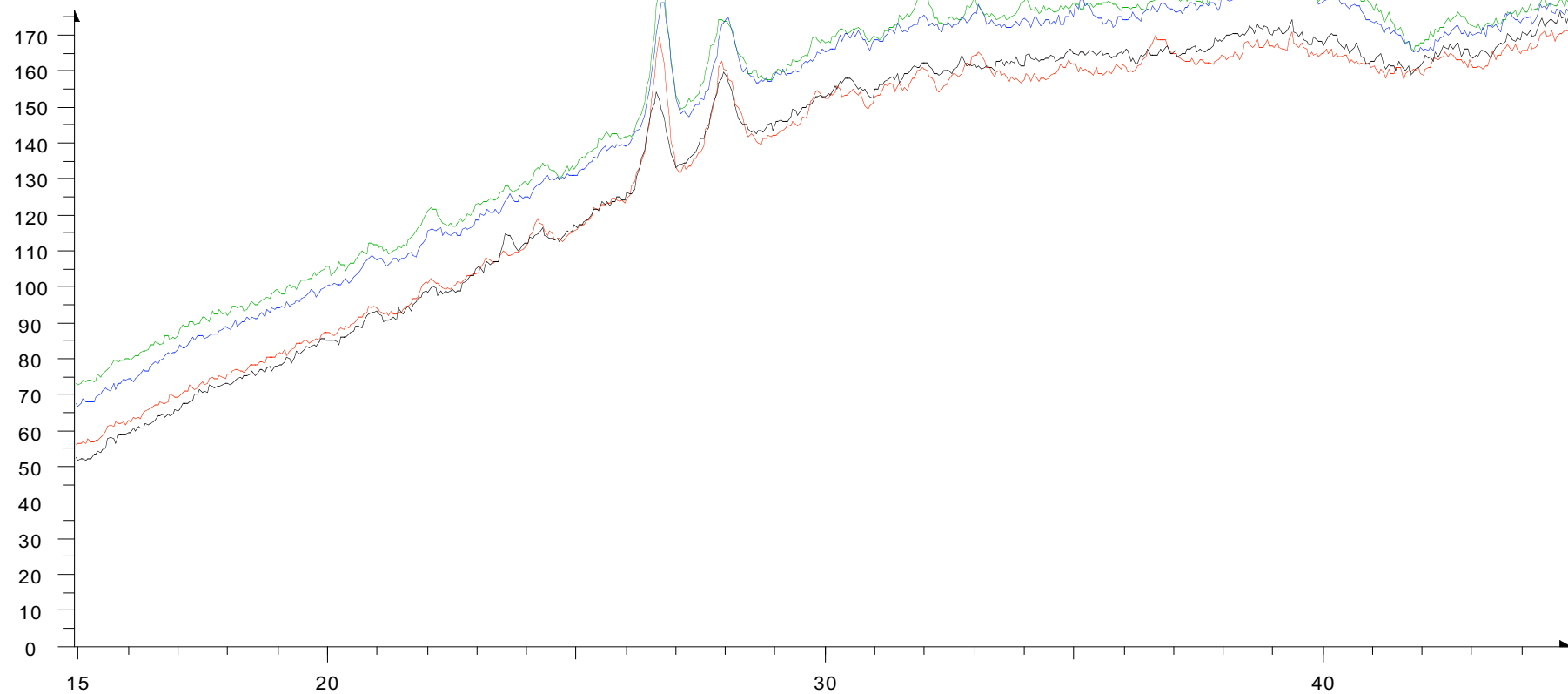
File: KristinSLTM 2 1 10.raw



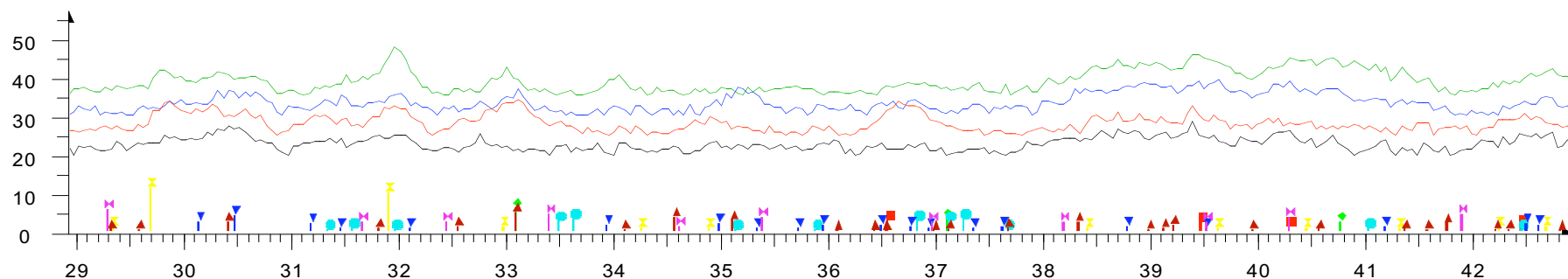
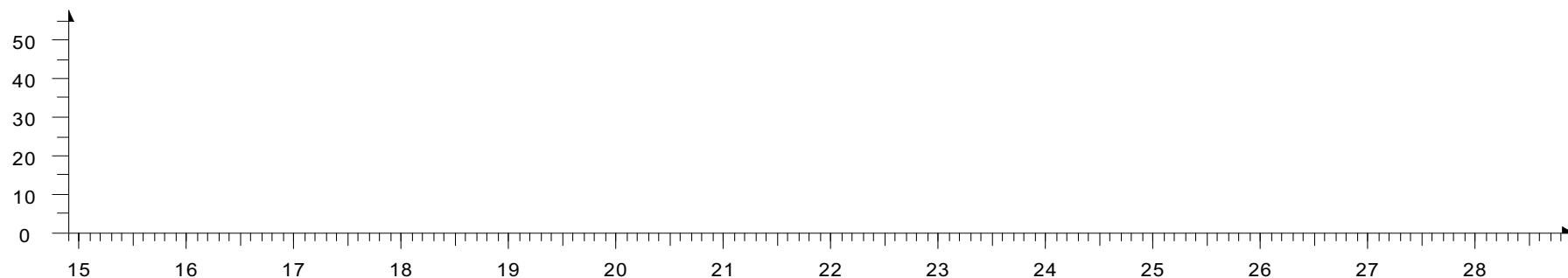
2-Theta - Scale

-  Y + 3.0 mm - File: KristinSLTM 2 1 10.raw
-  85-0796 (C) - Quartz - SiO<sub>2</sub>
-  44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O
-  41-0224 (I) - Bassanite. svn - CaSO<sub>4</sub>·0.5H<sub>2</sub>O
-  31-0650 (I) - Hvdroniumiarosite. svn - (H<sub>3</sub>O)Fe<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>(OH)<sub>6</sub>
-  86-1705 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)





File: KristinSLTM 2 1 11.raw  
Y + 4.0 mm - File: KristinSLTM 2 1 12.raw  
Y + 8.0 mm - File: KristinSLTM 2 1 13.raw  
Y + 12.0 mm - File: KristinSLTM 2 1 15.raw

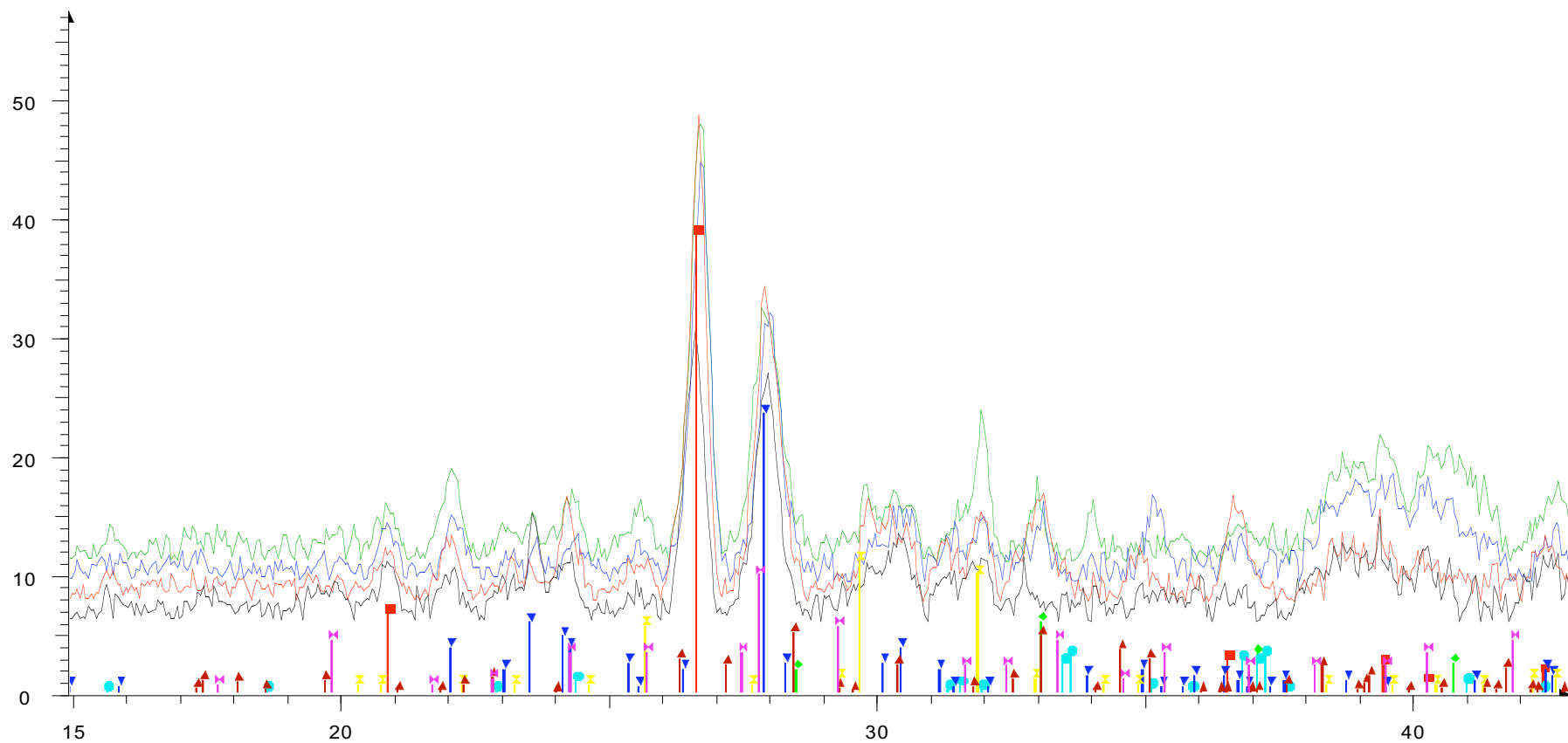


### 2-Theta - Scale

- Y + 12.0 mm - File: KristinSLTM 2 1 11.raw
- Y + 15.0 mm - File: KristinSLTM 2 1 12.raw
- Y + 18.0 mm - File: KristinSLTM 2 1 13.raw
- Y + 21.0 mm - File: KristinSLTM 2 1 15.raw
- 85-0796 (C) - Quartz - SiO<sub>2</sub>
- 42-1340 (\*) - Pyrite - FeS<sub>2</sub>
- 42-1320 (I) - Arsenopyrite - FeAsS
- 09-0466 (\*) - Albite, ordered - NaAlSi<sub>3</sub>O<sub>8</sub>

- 41-0224 (I) - Bassanite, svn - CaSO<sub>4</sub>·0.5H<sub>2</sub>O
- 73-1135 (C) - Amphibole - Al<sub>3.2</sub>Ca<sub>3.4</sub>Fe<sub>4.0</sub>K<sub>0.6</sub>Mg<sub>6.0</sub>Na<sub>1.0</sub>Si<sub>12.8</sub>O<sub>44</sub>(OH)
- 44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O

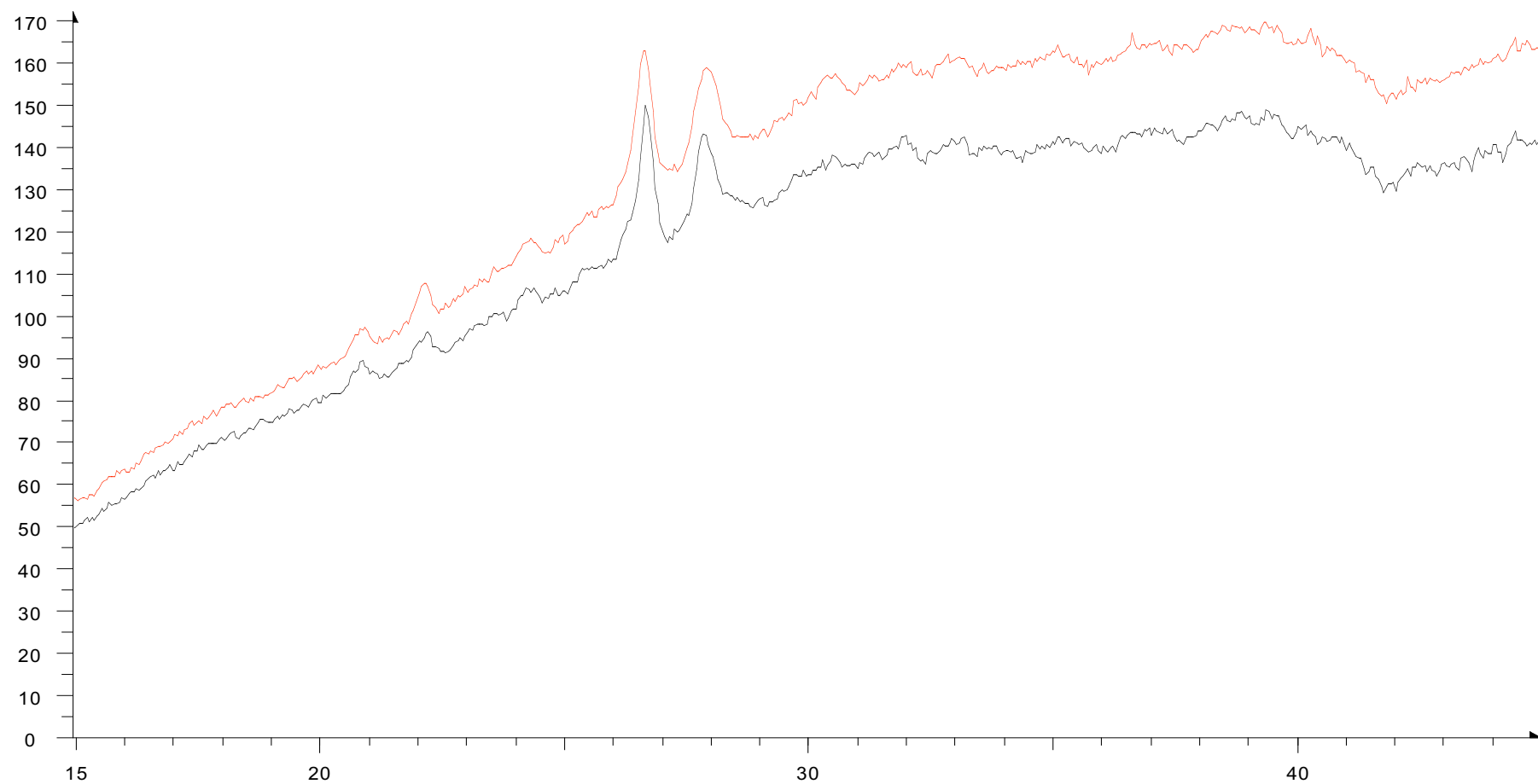




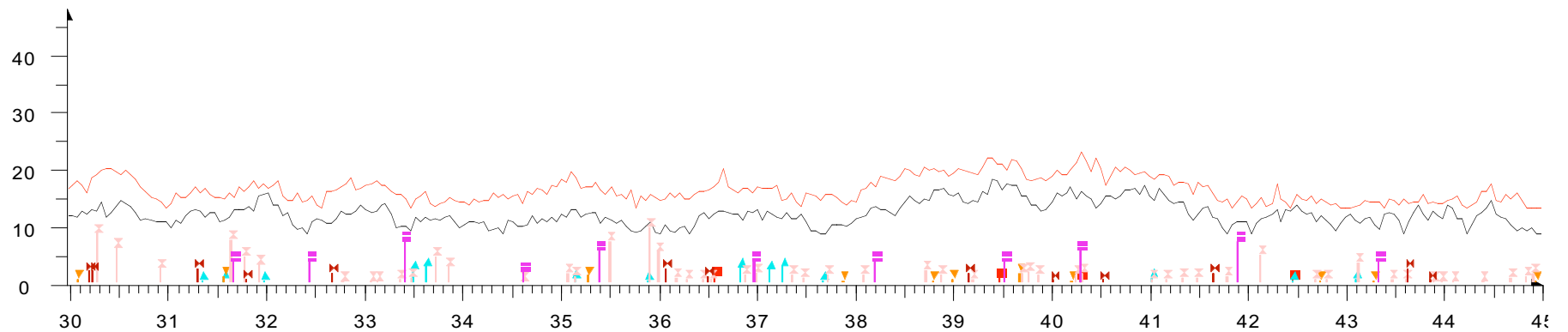
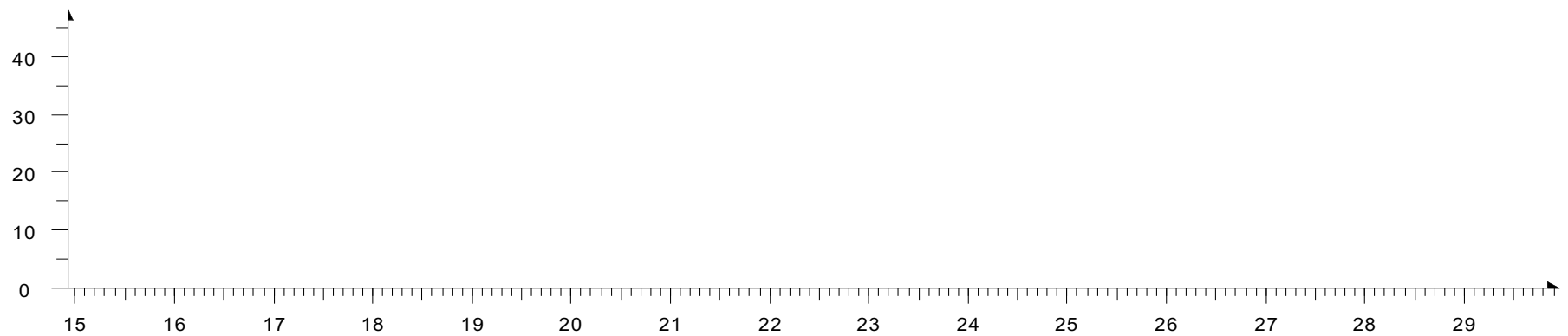
2-Theta - Scale

Y + 12.0 mm - File: KristinSLTM 2 1 11.raw  
 Y + 15.0 mm - File: KristinSLTM 2 1 12.raw  
 Y + 18.0 mm - File: KristinSLTM 2 1 13.raw  
 Y + 21.0 mm - File: KristinSLTM 2 1 15.raw  
 85-0796 (C) - Quartz - SiO<sub>2</sub>  
 42-1340 (\*) - Pyrite - FeS<sub>2</sub>  
 42-1320 (I) - Arsenopyrite - FeAsS  
 09-0466 (\*) - Albite, ordered - NaAlSi<sub>3</sub>O<sub>8</sub>









41-0224 (I) - Bassanite, svn - CaSO<sub>4</sub>·0.5H<sub>2</sub>O  
 73-1135 (C) - Amphibole - Al<sub>3.2</sub>Ca<sub>3.4</sub>Fe<sub>4.0</sub>K<sub>0.6</sub>Mg<sub>6.0</sub>Na<sub>1.0</sub>Si<sub>12.8</sub>O<sub>44</sub>(OH)  
 44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O

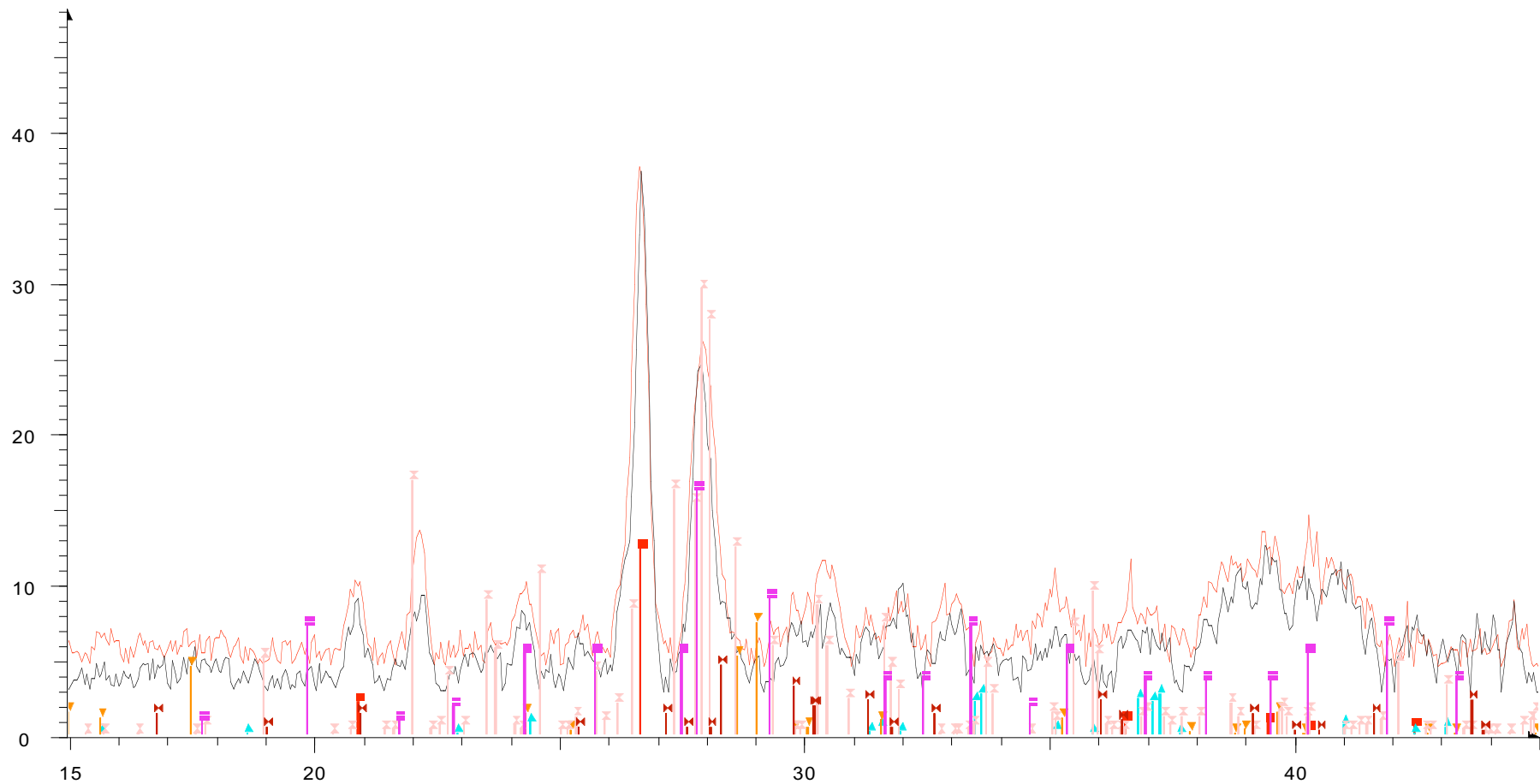


File: KristinSLTM 2 1 16.raw  
Y + 4.0 mm - File: KristinSLTM 2 1 17.raw



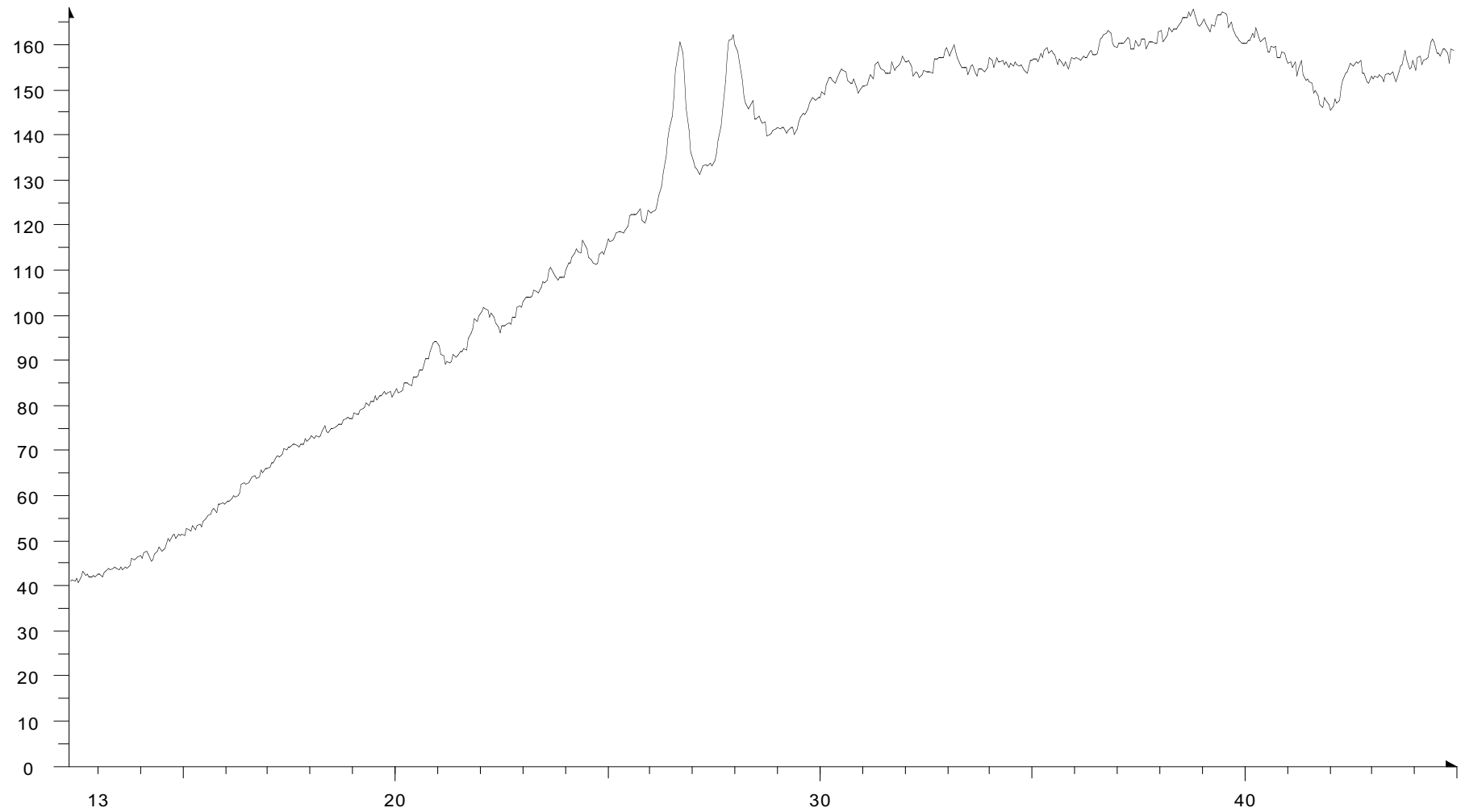
2-Theta - Scale

-  Y + 8.0 mm - File: KristinSLTM 2 1 16.raw
-  Y + 12.0 mm - File: KristinSLTM 2 1 17.raw
-  85-0796 (C) - Quartz - SiO<sub>2</sub>
-  42-1320 (I) - Arsenopyrite - FeAsS
-  36-0427 (\*) - Jarosite, OH-rich - (K.H<sub>3</sub>O)Fe<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>(OH)<sub>6</sub>
-  86-1705 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)
-  13-0121 (N) - Angelellite - Fe<sub>4</sub>+3As<sub>2</sub>O<sub>11</sub>
-  44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O




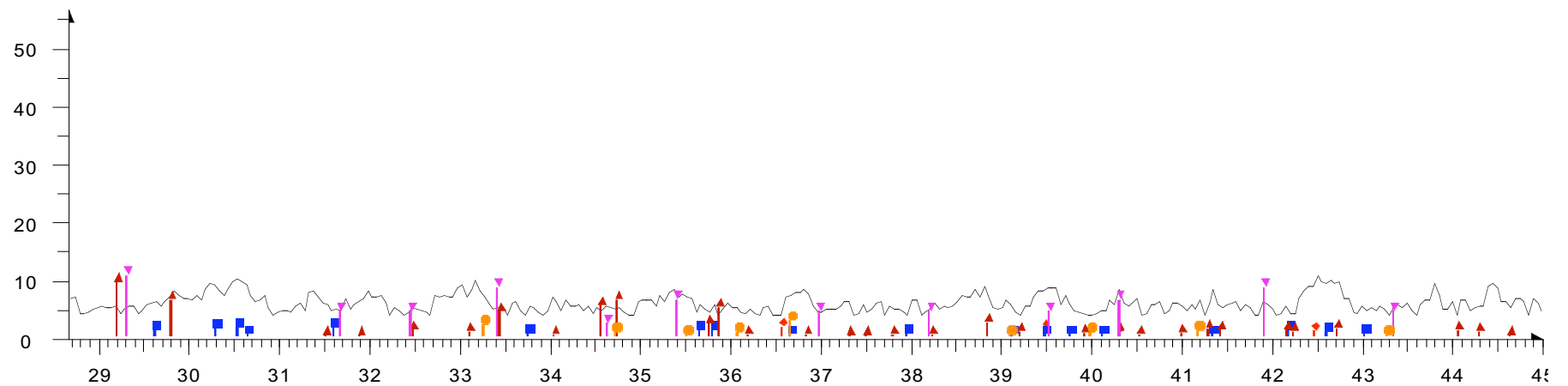
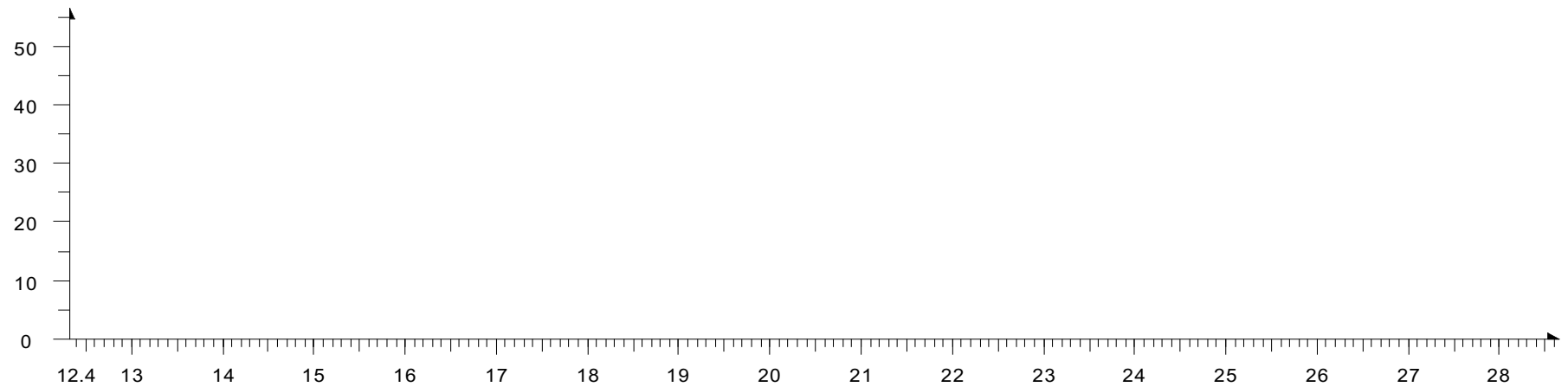
2-Theta - Scale

- Y + 8.0 mm - File: KristinSLTM 2 1 16.raw
- Y + 12.0 mm - File: KristinSLTM 2 1 17.raw
- 85-0796 (C) - Quartz - SiO<sub>2</sub>
- 42-1320 (I) - Arsenopyrite - FeAsS
- 36-0427 (\*) - Jarosite, OH-rich - (K,H<sub>3</sub>O)Fe<sub>3</sub>(SO<sub>4</sub>)<sub>2</sub>(OH)<sub>6</sub>
- 86-1705 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)
- 13-0121 (N) - Angelellite - Fe<sub>4</sub>+3As<sub>2</sub>O<sub>11</sub>
- 44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O



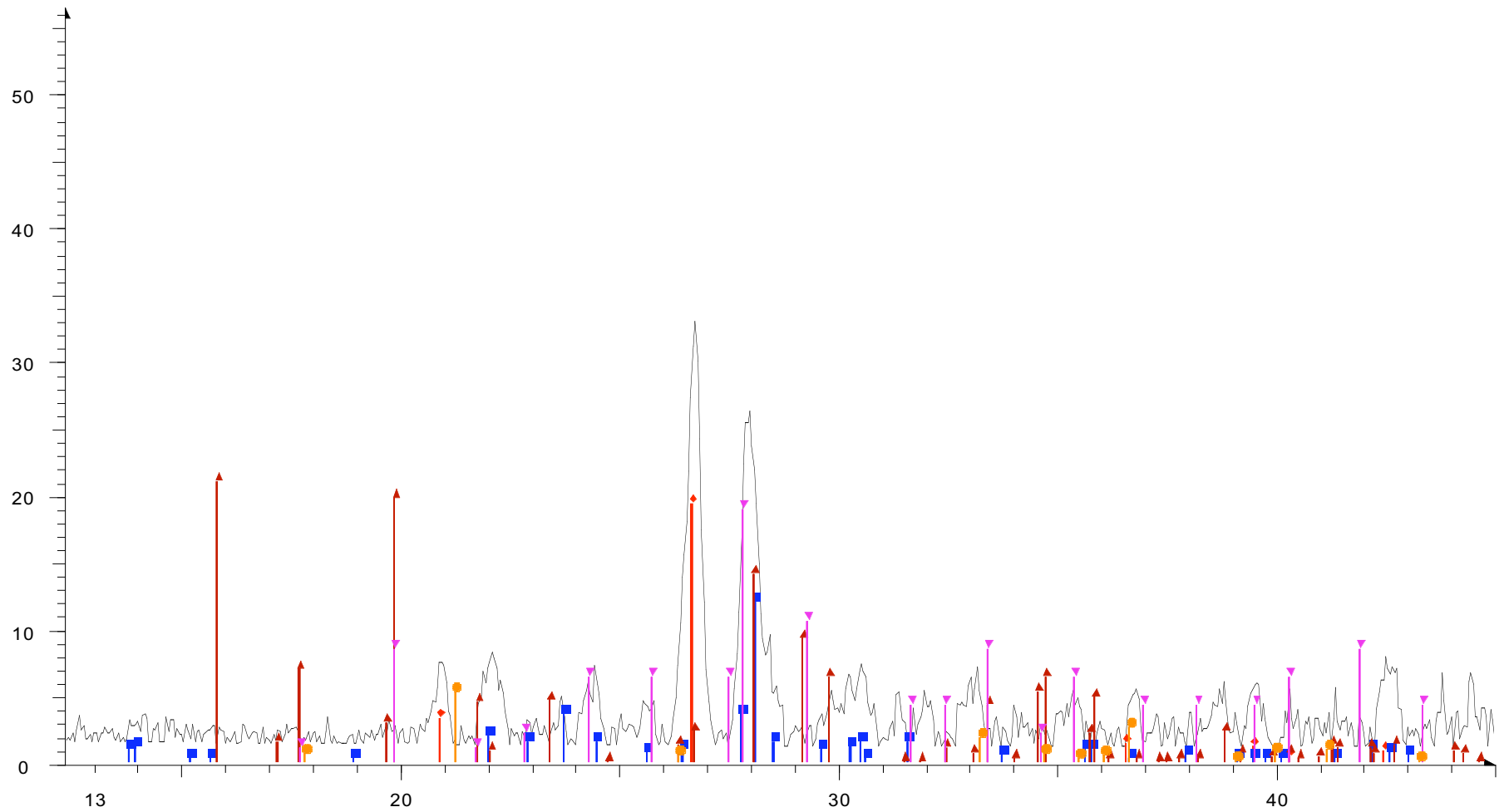
2-Theta - Scale

 File: KristinSLTM 2 1 24.raw

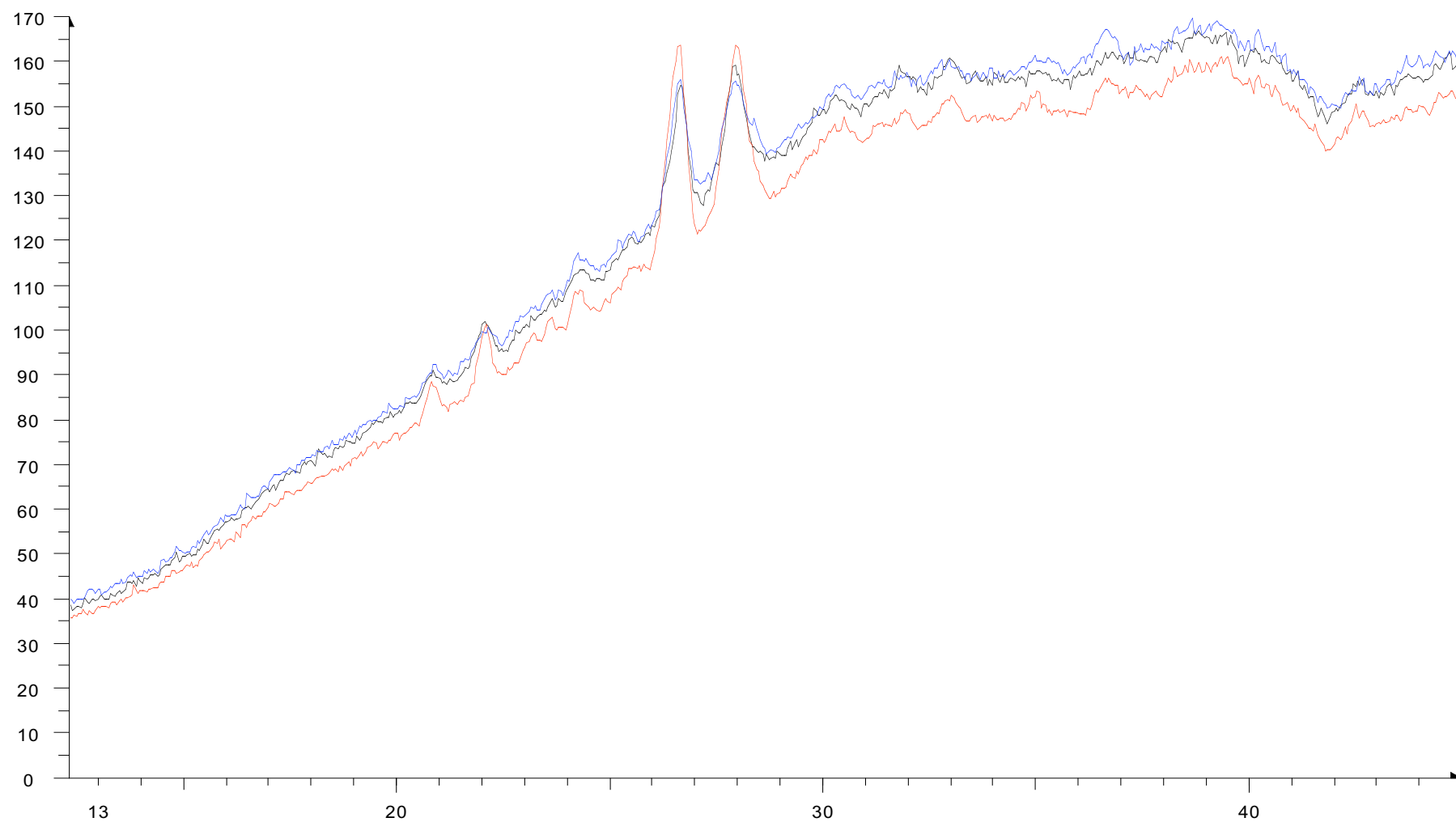


2-Theta - Scale

- Y + 4.0 mm - File: KristinSLTM 2 1 24.raw
- 85-0796 (C) - Quartz - SiO<sub>2</sub>
- 10-0393 (\*) - Albite, disordered - Na(Si<sub>3</sub>Al)O<sub>8</sub>
- 70-0825 (C) - Scorodite - FeAsO<sub>4</sub>(H<sub>2</sub>O)<sub>2</sub>
- 44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O
- 29-0713 (I) - Goethite - Fe+3O(OH)



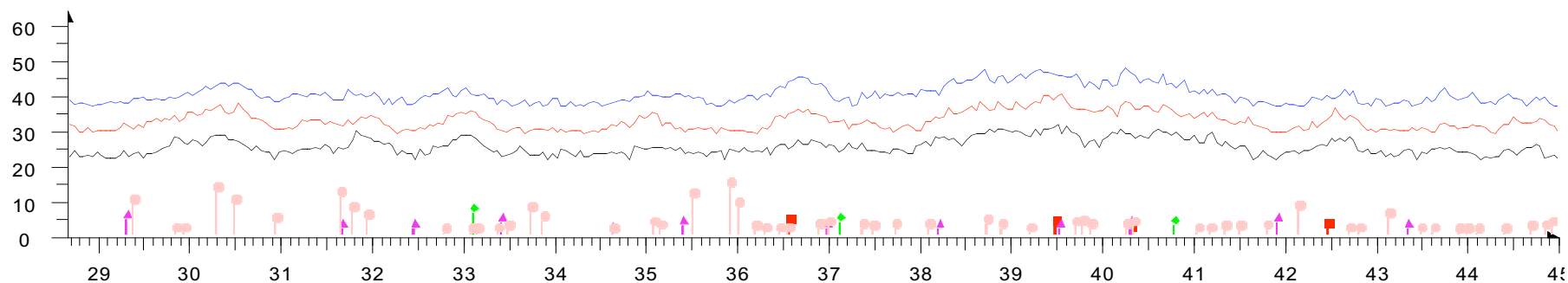
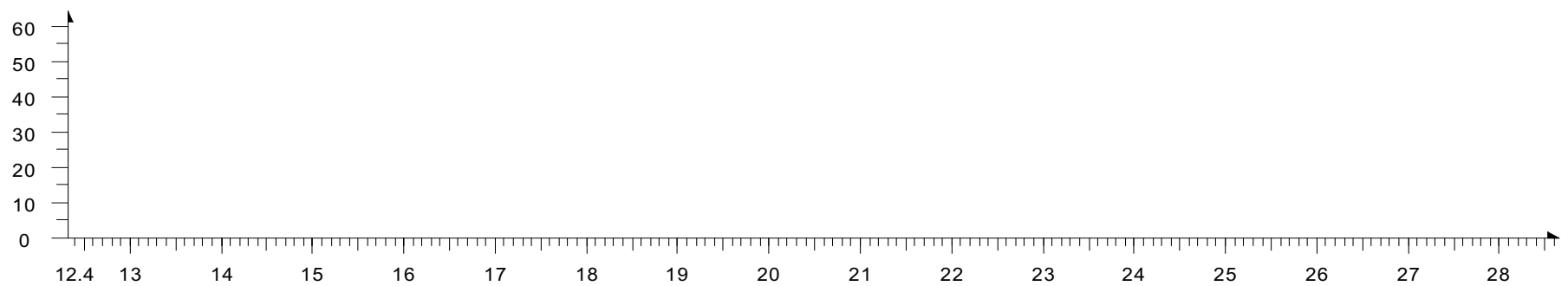
2-Theta - Scale



2-Theta - Scale

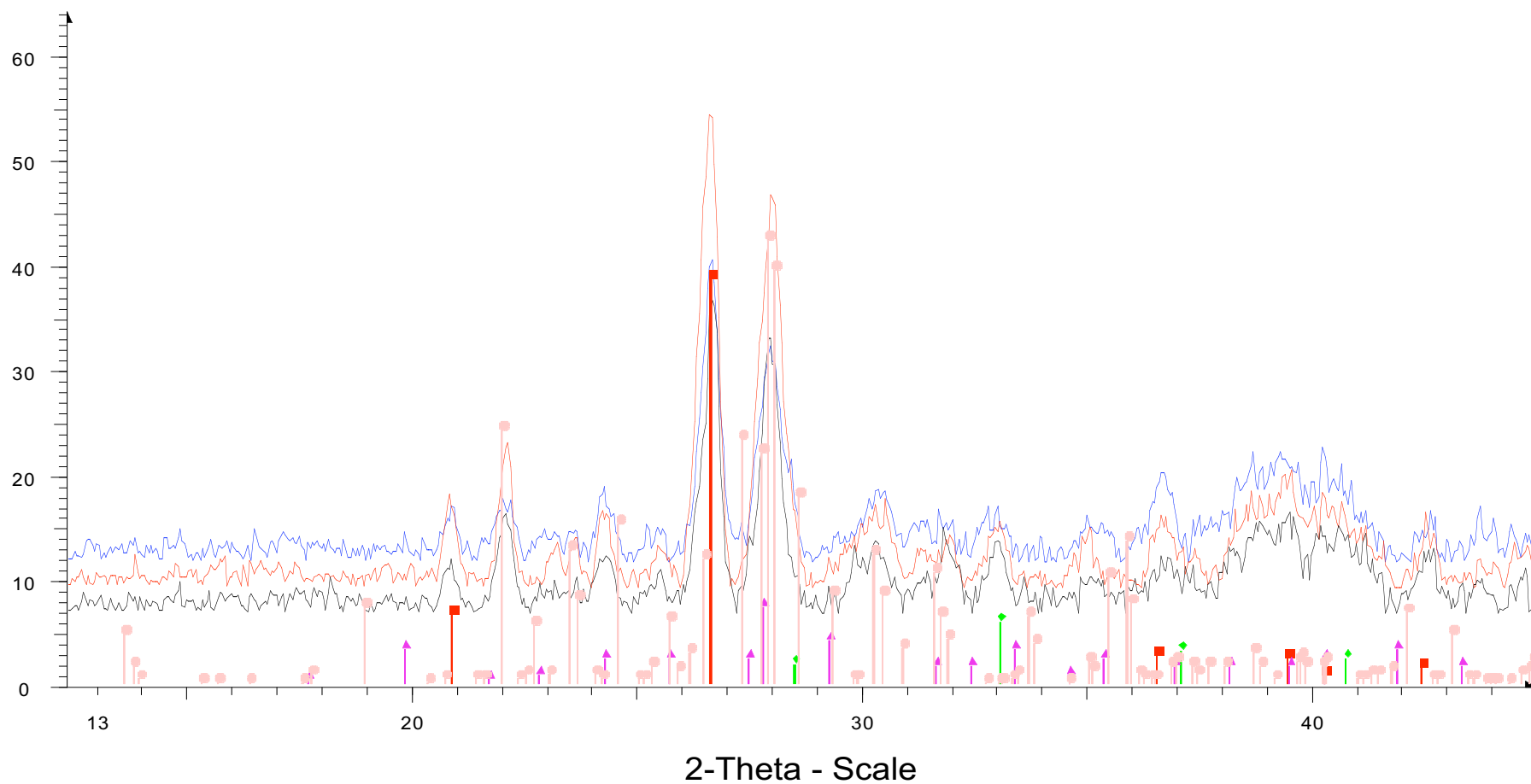
File: KristinSLTM 2 1 18.raw  
File: KristinSLTM 2 1 19.raw  
File: KristinSLTM 2 1 20.raw



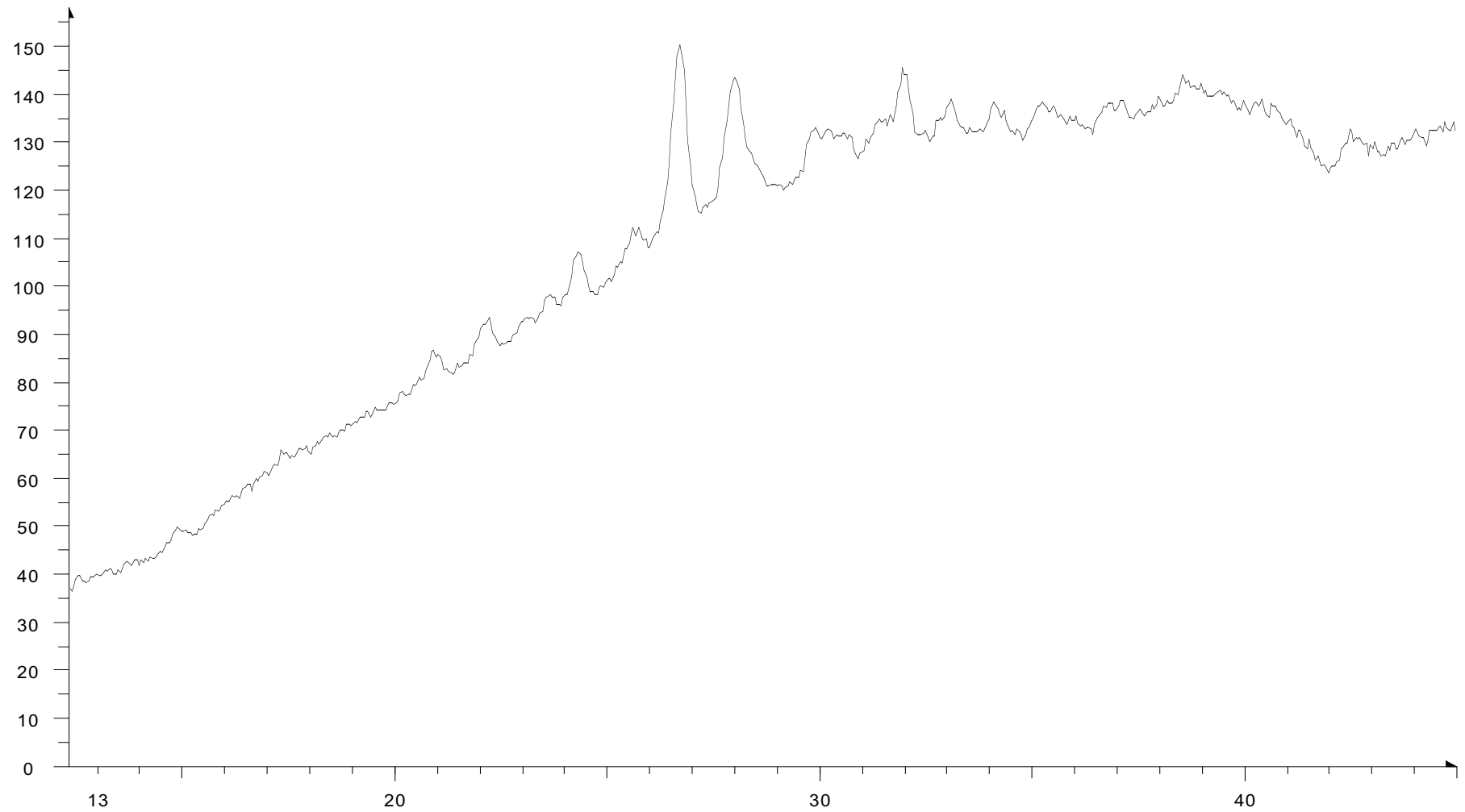


2-Theta - Scale

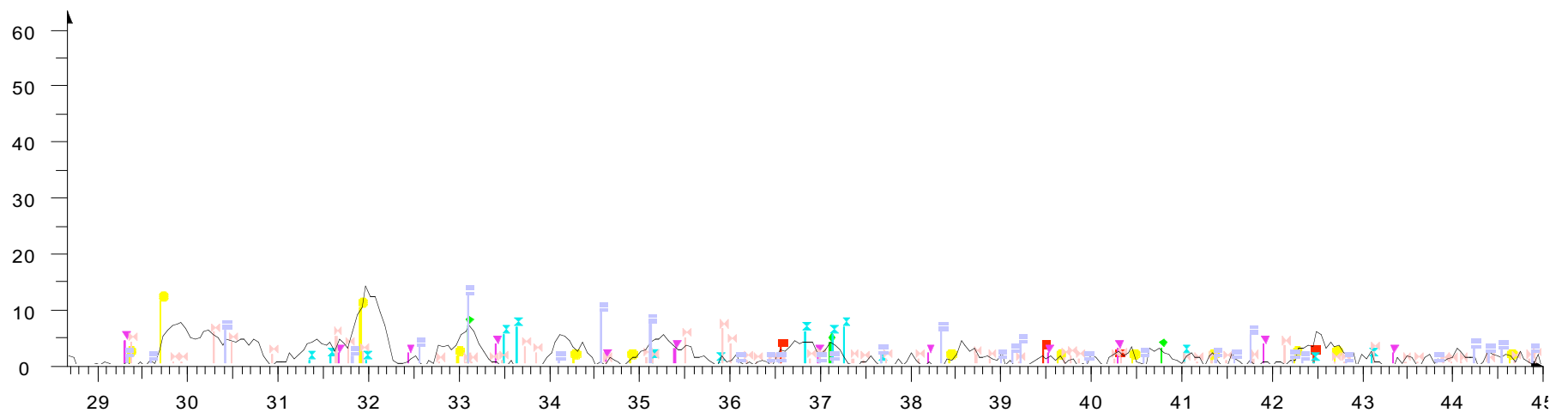
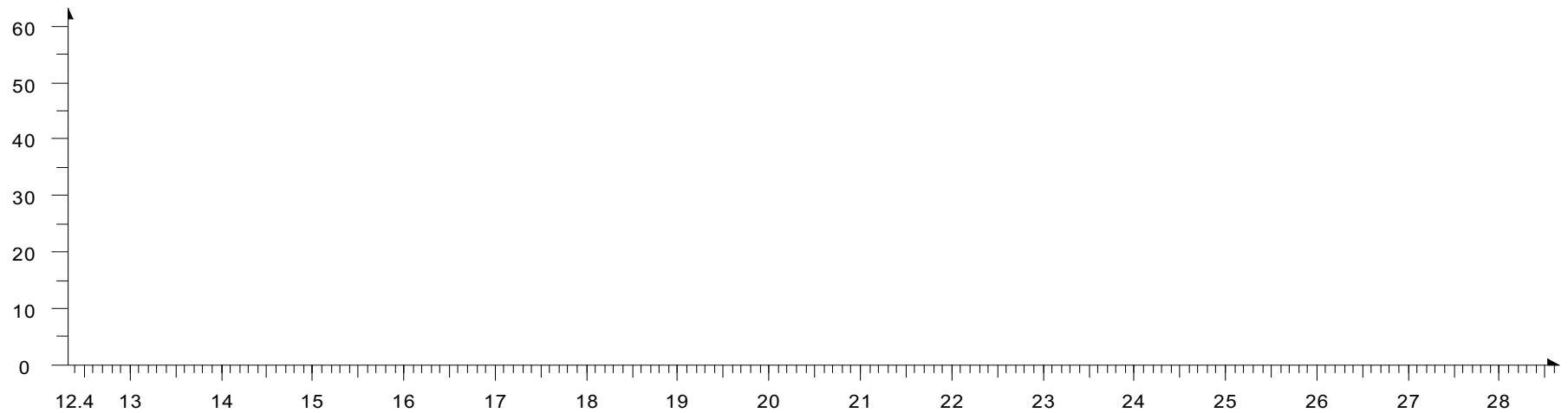
- Y + 12.0 mm - File: KristinSLTM 2 1 18.raw
- Y + 16.0 mm - File: KristinSLTM 2 1 19.raw
- Y + 20.0 mm - File: KristinSLTM 2 1 20.raw
- 85-0796 (C) - Quartz - SiO<sub>2</sub>
- 42-1340 (\*) - Pvrite - FeS<sub>2</sub>
- 44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O
- 86-1705 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)











- Y + 12.0 mm - File: KristinSLTM 2 1 18.raw
- Y + 16.0 mm - File: KristinSLTM 2 1 19.raw
- Y + 20.0 mm - File: KristinSLTM 2 1 20.raw
- 85-0796 (C) - Quartz - SiO<sub>2</sub>
- 42-1340 (\*) - Pwrite - FeS<sub>2</sub>
- 44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O
- 86-1705 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)

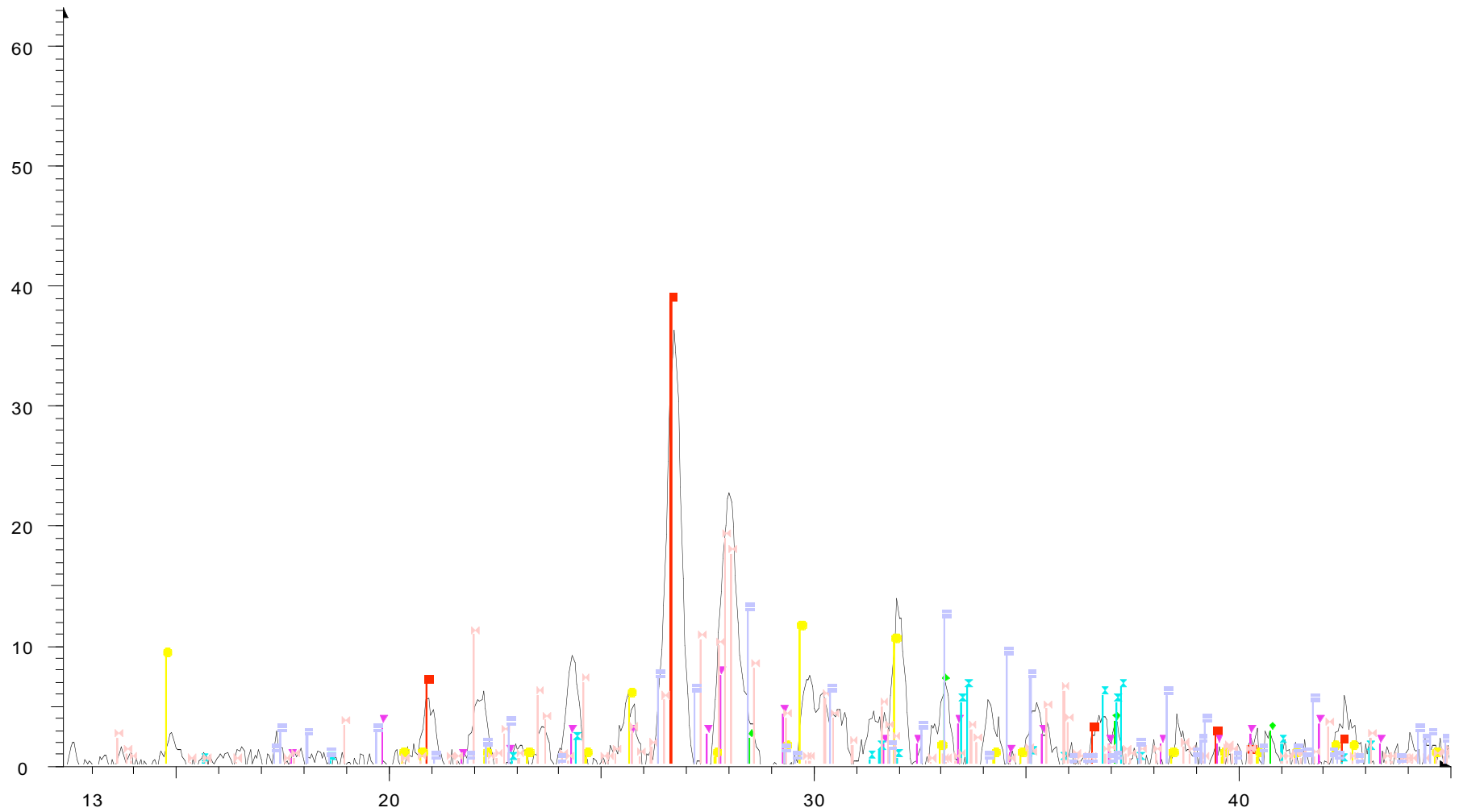


File: KristinSLTM 2 1 21.raw











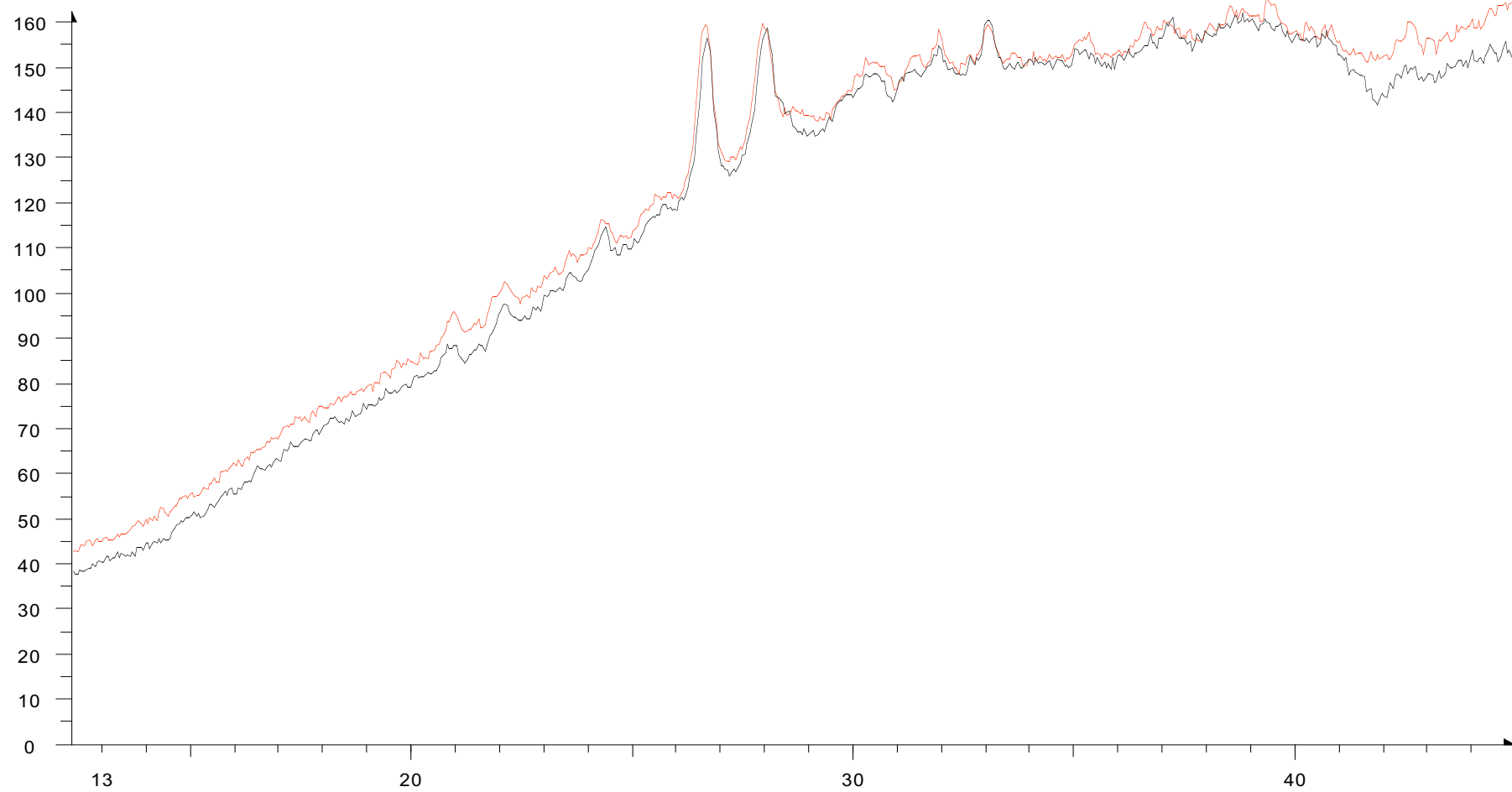
2-Theta - Scale

-  File: KristinSLTM 2 1 21.raw
-  85-0796 (C) - Quartz - SiO<sub>2</sub>
-  42-1340 (\*) - Pwrite - FeS<sub>2</sub>
-  44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O
-  42-1320 (I) - Arsenopvrite - FeAsS
-  41-0224 (I) - Bassanite, syn - CaSO<sub>4</sub>·0.5H<sub>2</sub>O
-  86-1705 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)
-  73-1135 (C) - Amphibole - Al<sub>3.2</sub>Ca<sub>3.4</sub>Fe<sub>4.0</sub>K<sub>0.6</sub>Mg<sub>6.0</sub>Na<sub>1.0</sub>Si<sub>12.8</sub>O<sub>44</sub>(OH)<sub>4</sub>



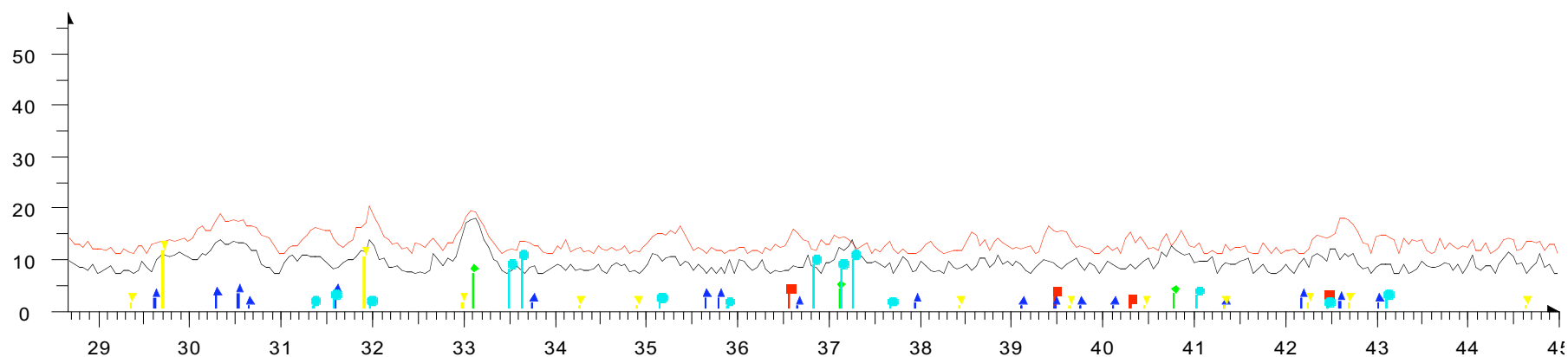
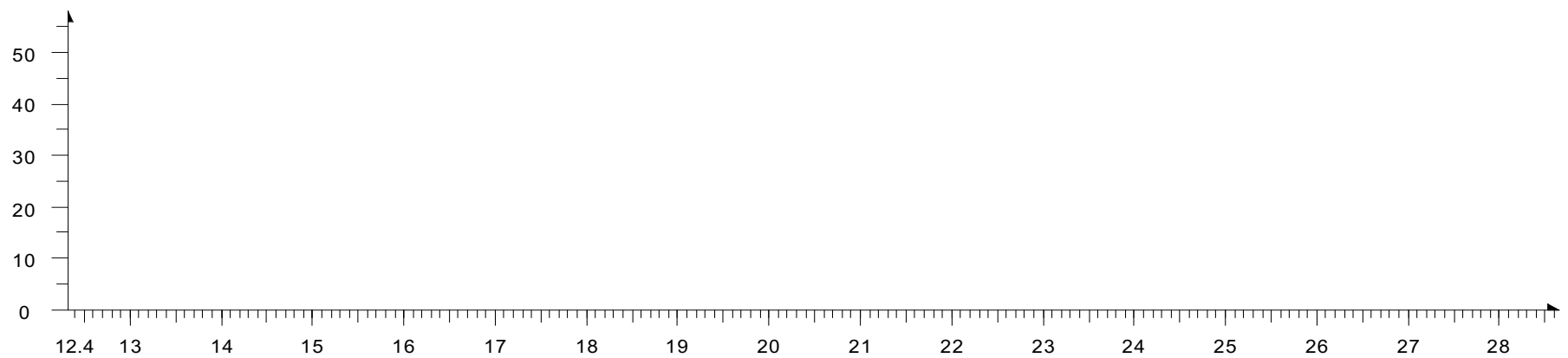
2-Theta - Scale

-  File: KristinSLTM 2 1 21.raw
-  85-0796 (C) - Quartz - SiO<sub>2</sub>
-  42-1340 (\*) - Pprite - FeS<sub>2</sub>
-  44-1468 (N) - Tooeleite - Fe<sub>8</sub>(AsO<sub>4</sub>)<sub>6</sub>(OH)<sub>6</sub>·5H<sub>2</sub>O
-  42-1320 (I) - Arsenopprite - FeAsS
-  41-0224 (I) - Bassanite, syn - CaSO<sub>4</sub>·0.5H<sub>2</sub>O
-  86-1705 (C) - Anorthite - Ca(Al<sub>2</sub>Si<sub>2</sub>O<sub>8</sub>)
-  73-1135 (C) - Amphibole - Al<sub>3.2</sub>Ca<sub>3.4</sub>Fe<sub>4.0</sub>K<sub>0.6</sub>Mn<sub>6.0</sub>Na<sub>1.0</sub>Si<sub>12.8</sub>O<sub>44</sub>(OH)<sub>4</sub>










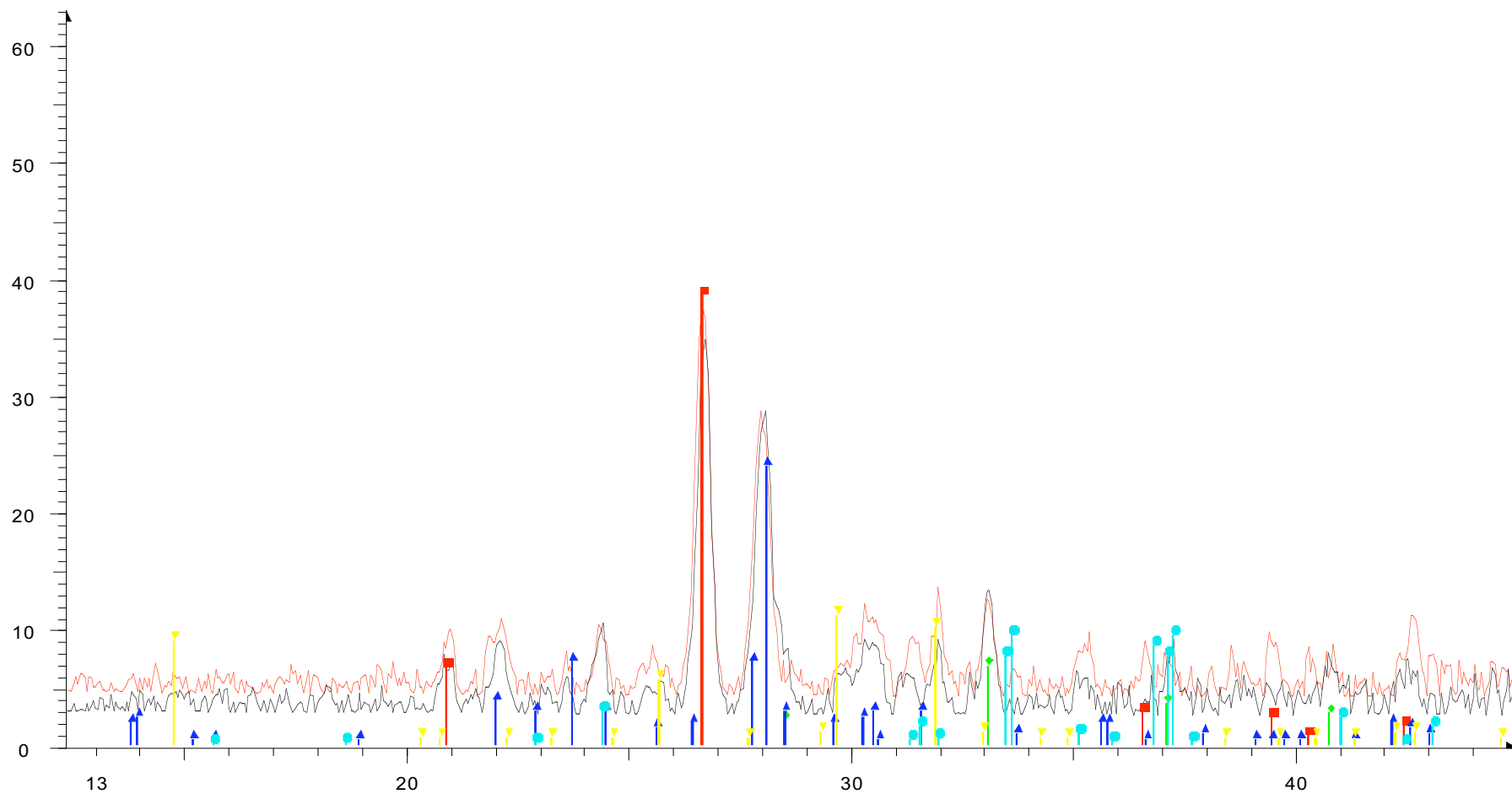
2-Theta - Scale

File: KristinSLTM 2 1 22.raw  
Y + 3.0 mm - File: KristinSLTM 2 1 23.raw










2-Theta - Scale

-  Y + 6.0 mm - File: KristinSLTM 2 1 22.raw
-  Y + 9.0 mm - File: KristinSLTM 2 1 23.raw
-  85-0796 (C) - Quartz - SiO<sub>2</sub>
-  42-1340 (\*) - Pyrite - FeS<sub>2</sub>
-  42-1320 (I) - Arsenopyrite - FeAsS
-  10-0393 (\*) - Albite, disordered - Na(Si<sub>3</sub>Al)O<sub>8</sub>
-  41-0224 (I) - Bassanite, svn - CaSO<sub>4</sub>·0.5H<sub>2</sub>O



2-Theta - Scale

-  Y + 6.0 mm - File: KristinSLTM 2 1 22.raw
-  Y + 9.0 mm - File: KristinSLTM 2 1 23.raw
-  85-0796 (C) - Quartz - SiO<sub>2</sub>
-  42-1340 (\*) - Pyrite - FeS<sub>2</sub>
-  42-1320 (I) - Arsenopyrite - FeAsS
-  10-0393 (\*) - Albite, disordered - Na(Si<sub>3</sub>Al)O<sub>8</sub>
-  41-0224 (I) - Bassanite, syn - CaSO<sub>4</sub>·0.5H<sub>2</sub>O