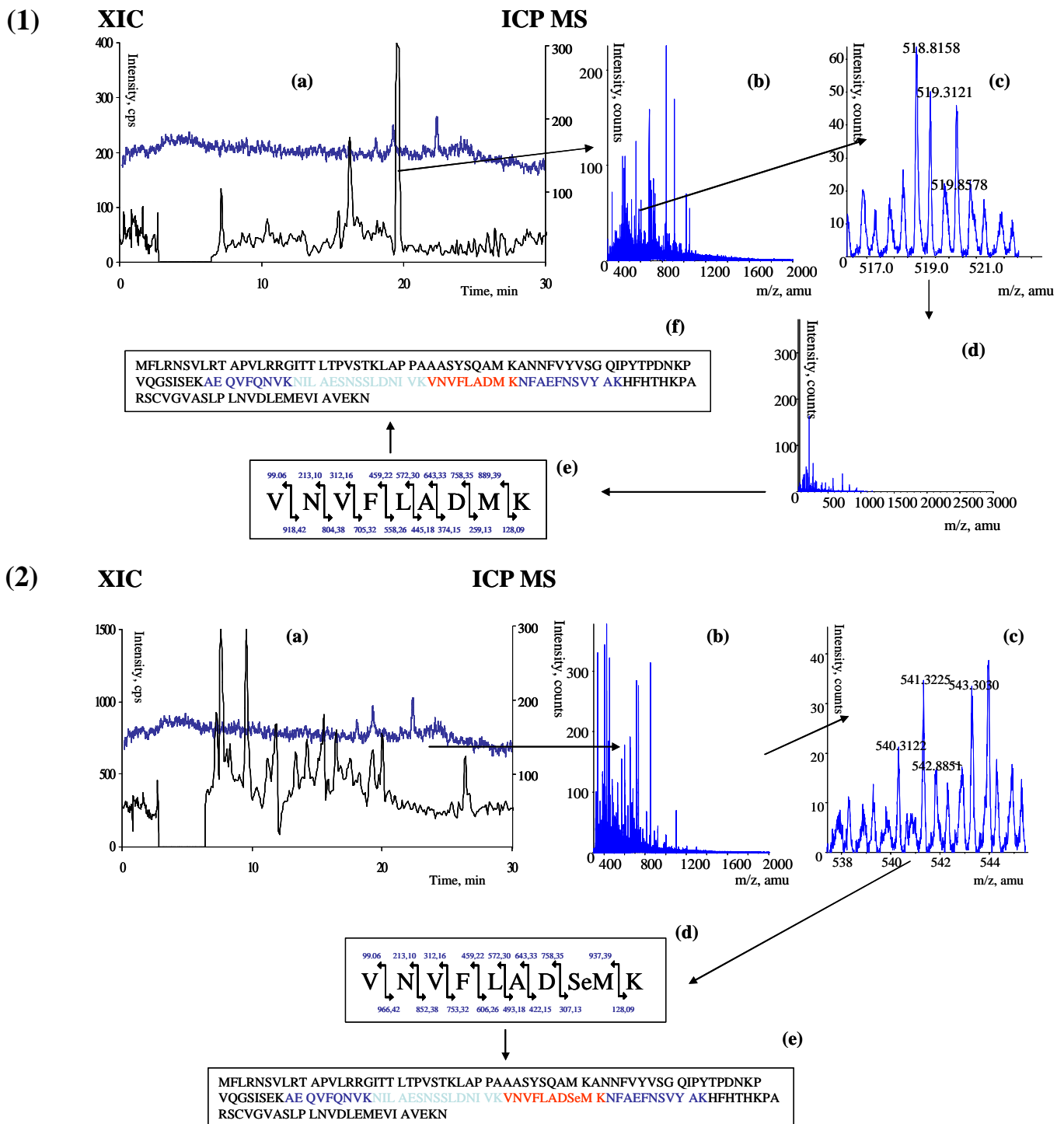


SUPPLEMENTARY INFORMATION



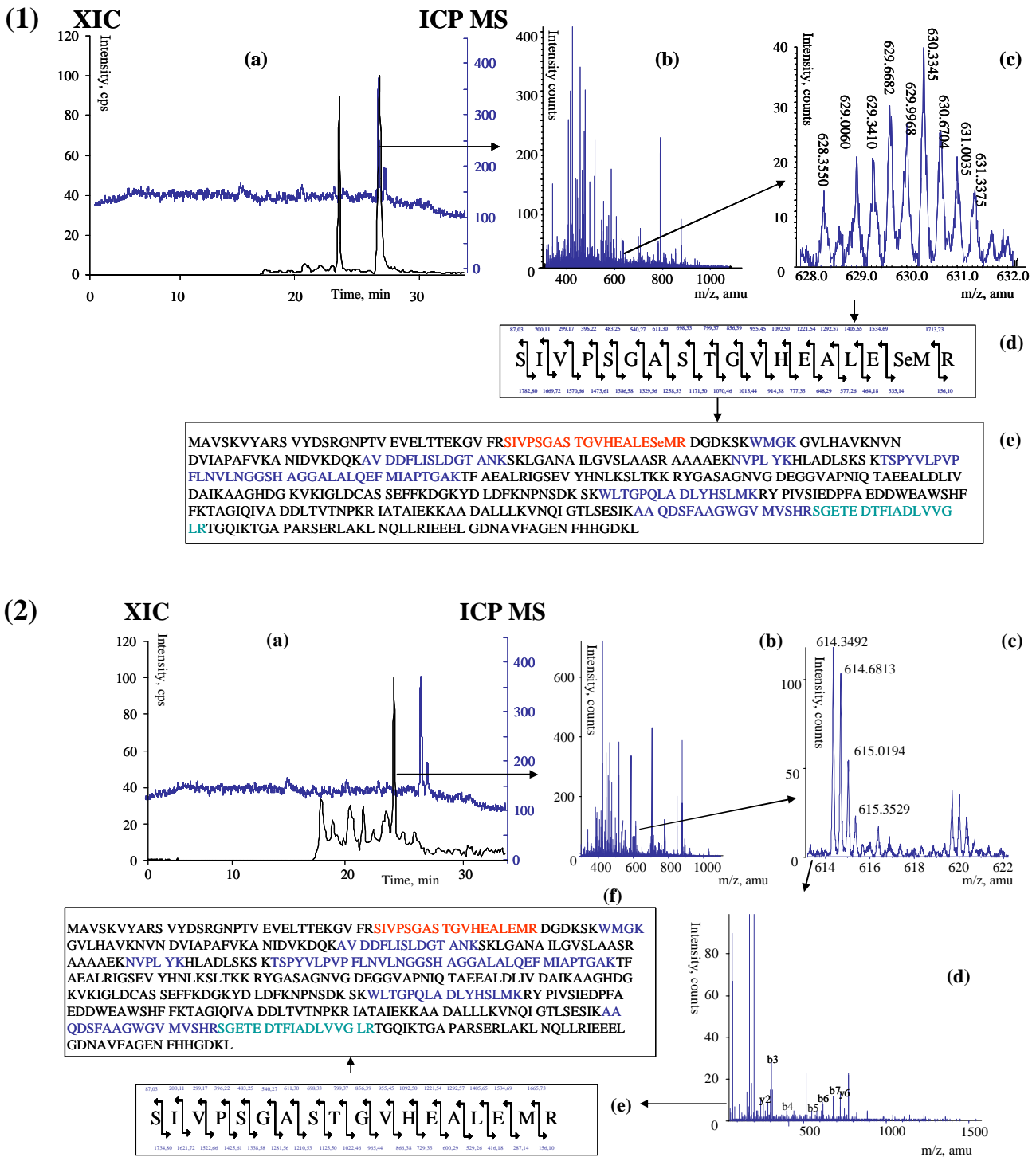


Figure 2: Spot 1. Identification of selenium – containing Enolase I.

(1) : Identification of the selenium - containing protein (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, Se-peptide detection by characteristic isotopic pattern. (d) : Peptide sequence identified. (e) : Sequence of the selenium - containing protein identified by database search.

(2) : Identification of the sulfur homologue (a) : NanoHPLC-ICP MS and nanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, S-peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the sulfur - containing protein identified by database search.

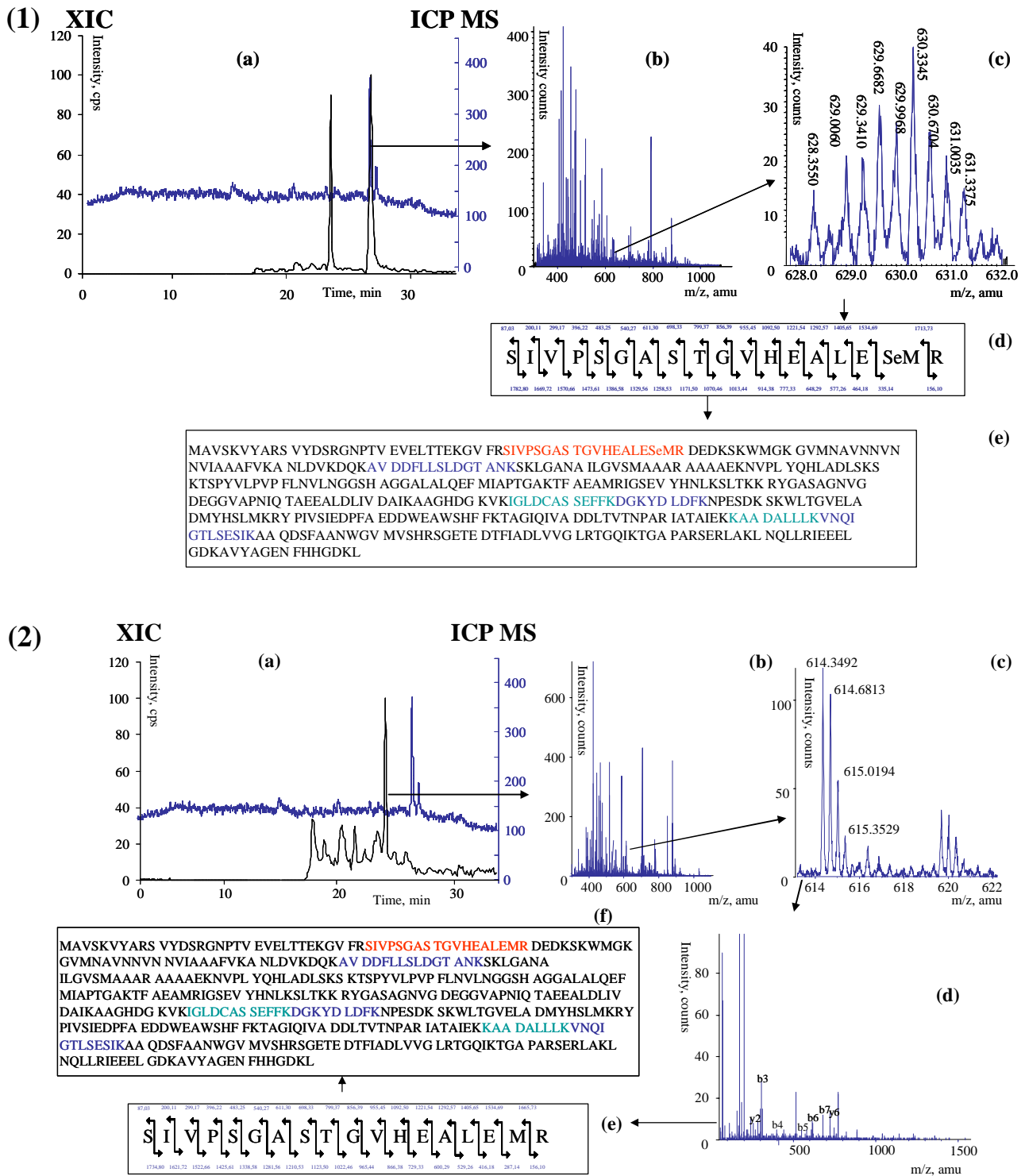


Figure 3: Spot 1. Identification of selenium – containing Enolase II.

- (1) : Identification of the selenium - containing protein (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, Se-peptide detection by characteristic isotopic pattern. (d) : Peptide sequence identified. (e) : Sequence of the selenium - containing protein identified by database search.
- (2) : Identification of the sulfur homologue (a) : NanoHPLC-ICP MS and nanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, S-peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the sulfur - containing protein identified by database search.

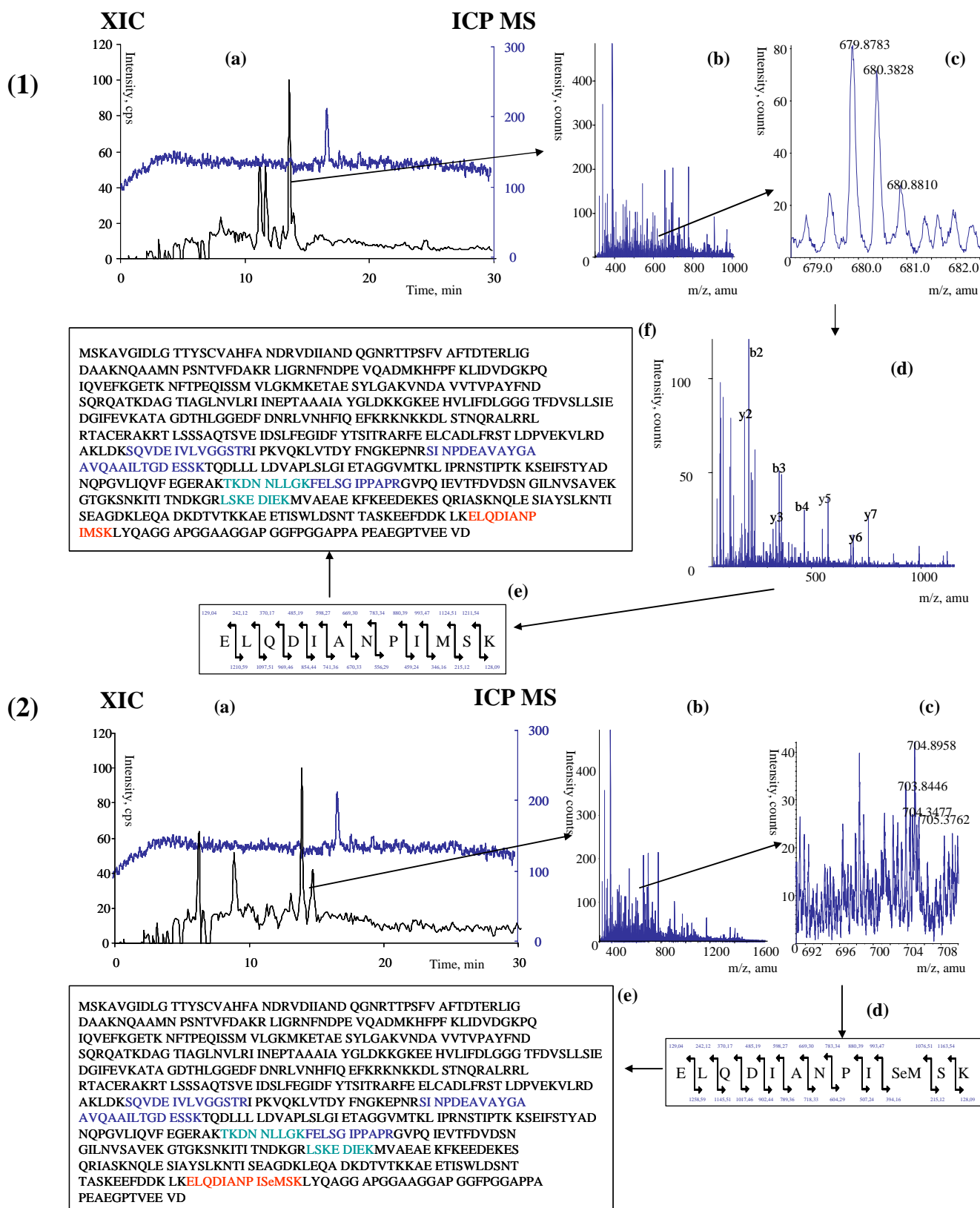


Figure 4: Spot 2. Identification of selenium – containing HSP SSA1.

- (1): Identification of the sulfur homologue. (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, S-peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the sulfur - containing protein identified by database search.
- (2): Identification of the selenium - containing protein (a) : NanoHPLC-ICP MS and nanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, Se-peptide detection by characteristic isotopic pattern. (d) : Peptide sequence identified. (e) : Sequence of the selenium - containing protein identified by database search.

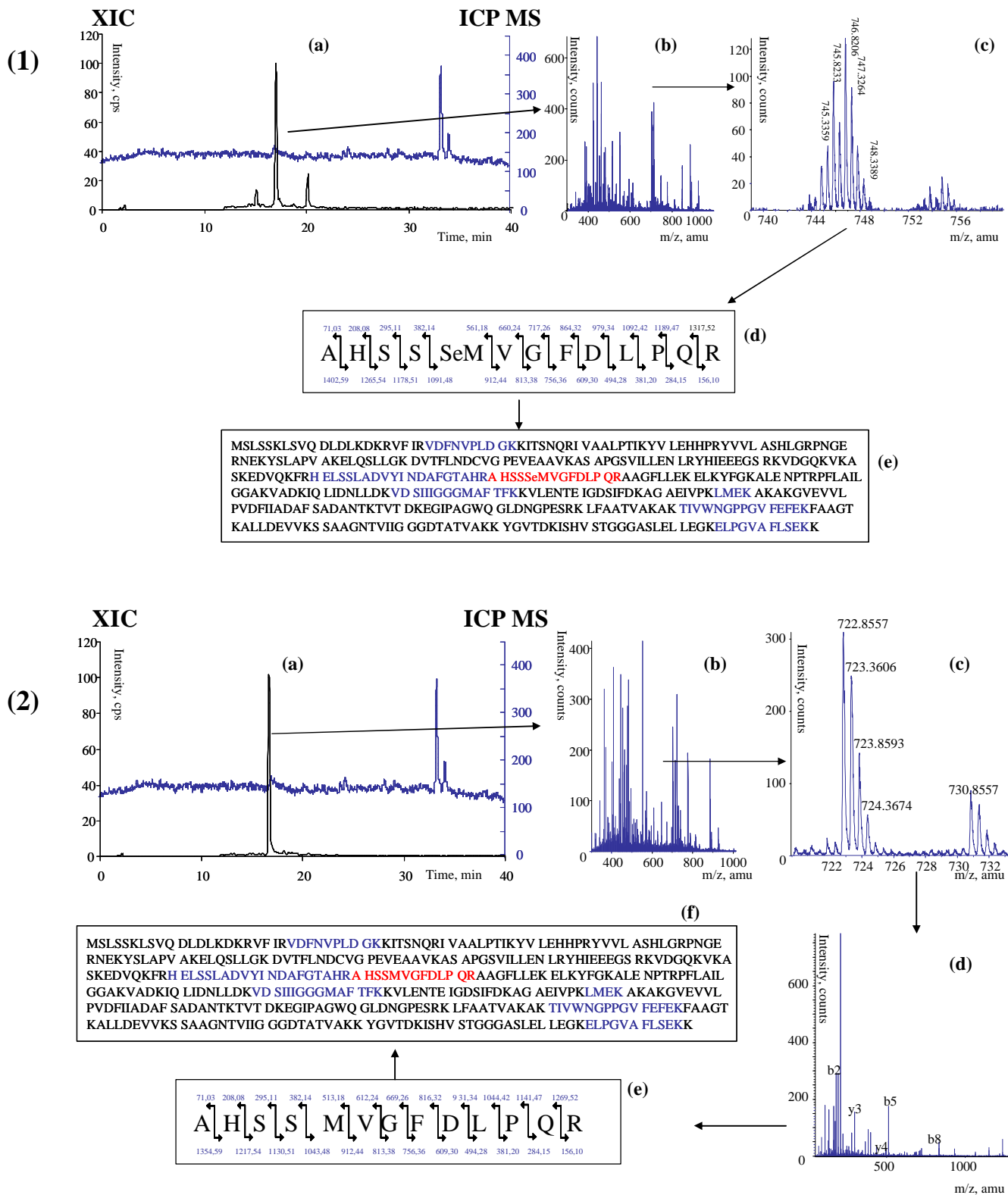


Figure 5: Spot 3. Identification of selenium – containing Phosphoglycerate kinase

(1) : Identification of the selenium - containing protein (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, Se-peptide detection by characteristic isotopic pattern. (d) : Peptide sequence identified. (e) : Sequence of the selenium - containing protein identified by database search.

(2) : Identification of the sulfur homologue (a) : NanoHPLC-ICP MS and nanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, S-peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the sulfur - containing protein identified by database search.

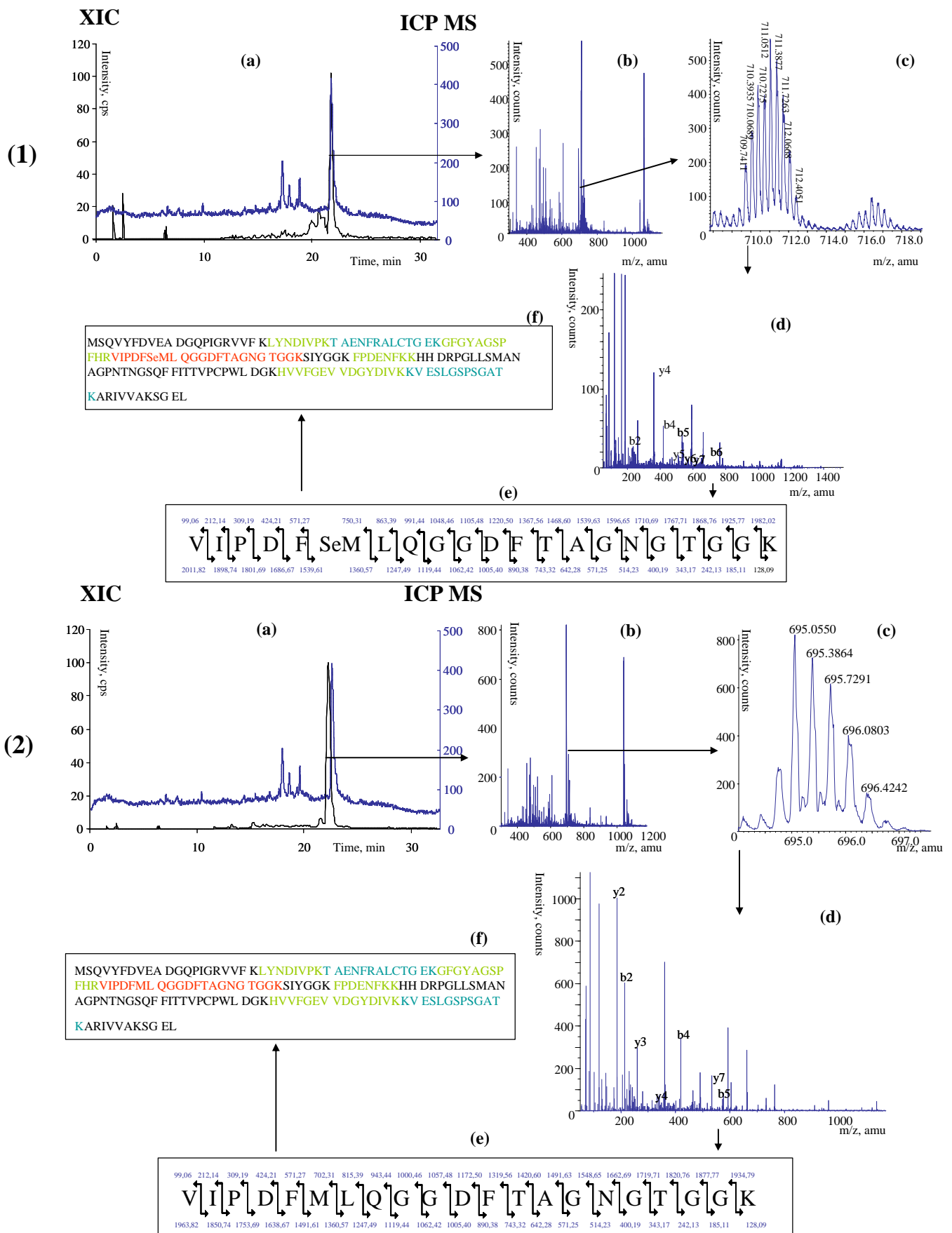


Figure 6: Spot 4. Identification of selenium - containing Peptidyl-prolyl cis-trans isomerase.

(1) : Identification of the selenium - containing protein. (2) : Identification of the sulfur homologue.

(a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the protein identified by database search.

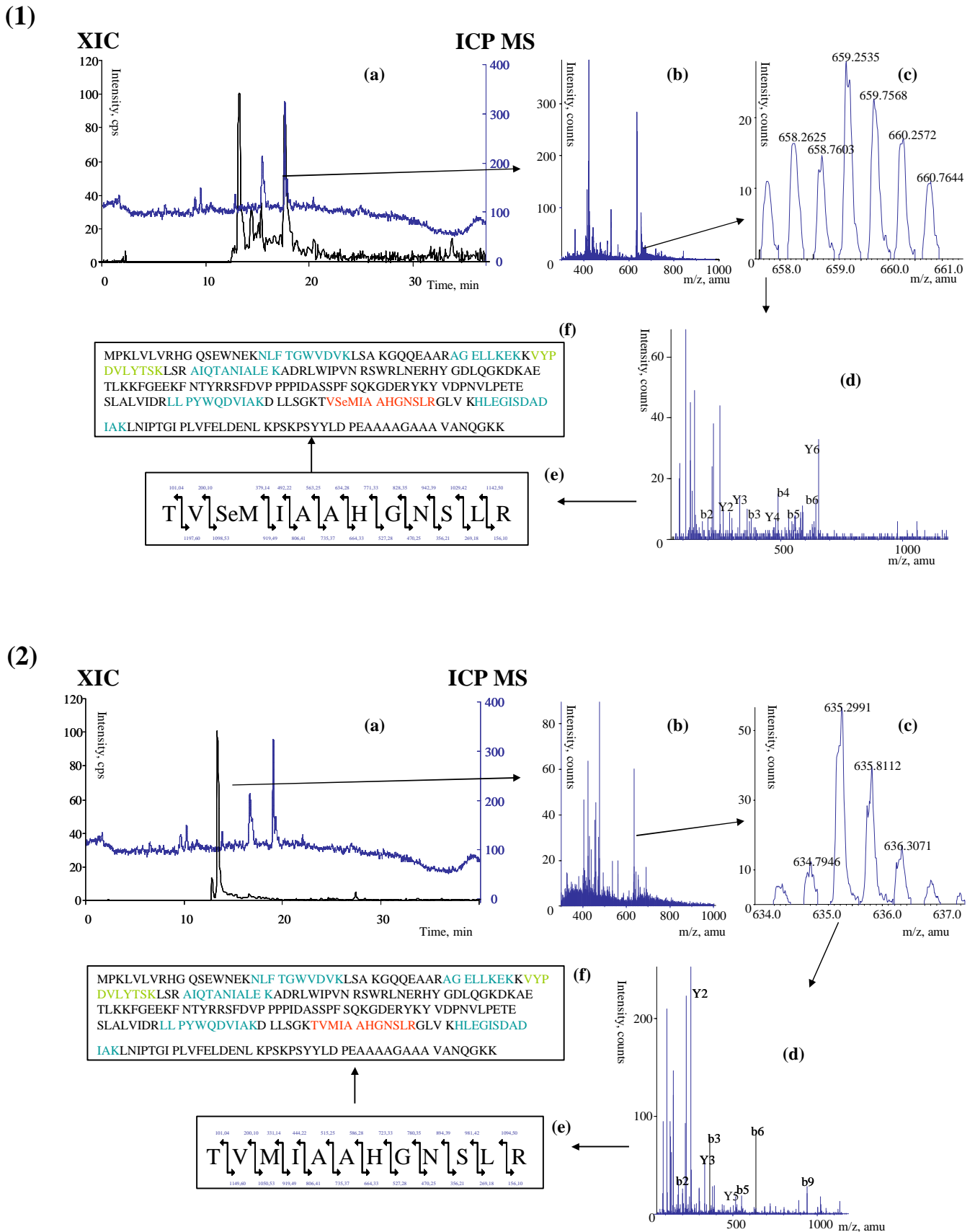


Figure 7: Spot 8. Identification of selenium - containing Phosphoglycerate mutase 1.

(1): Identification of the selenium - containing protein. (2): Identification of the sulfur homologue.

(a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the protein identified by database search.

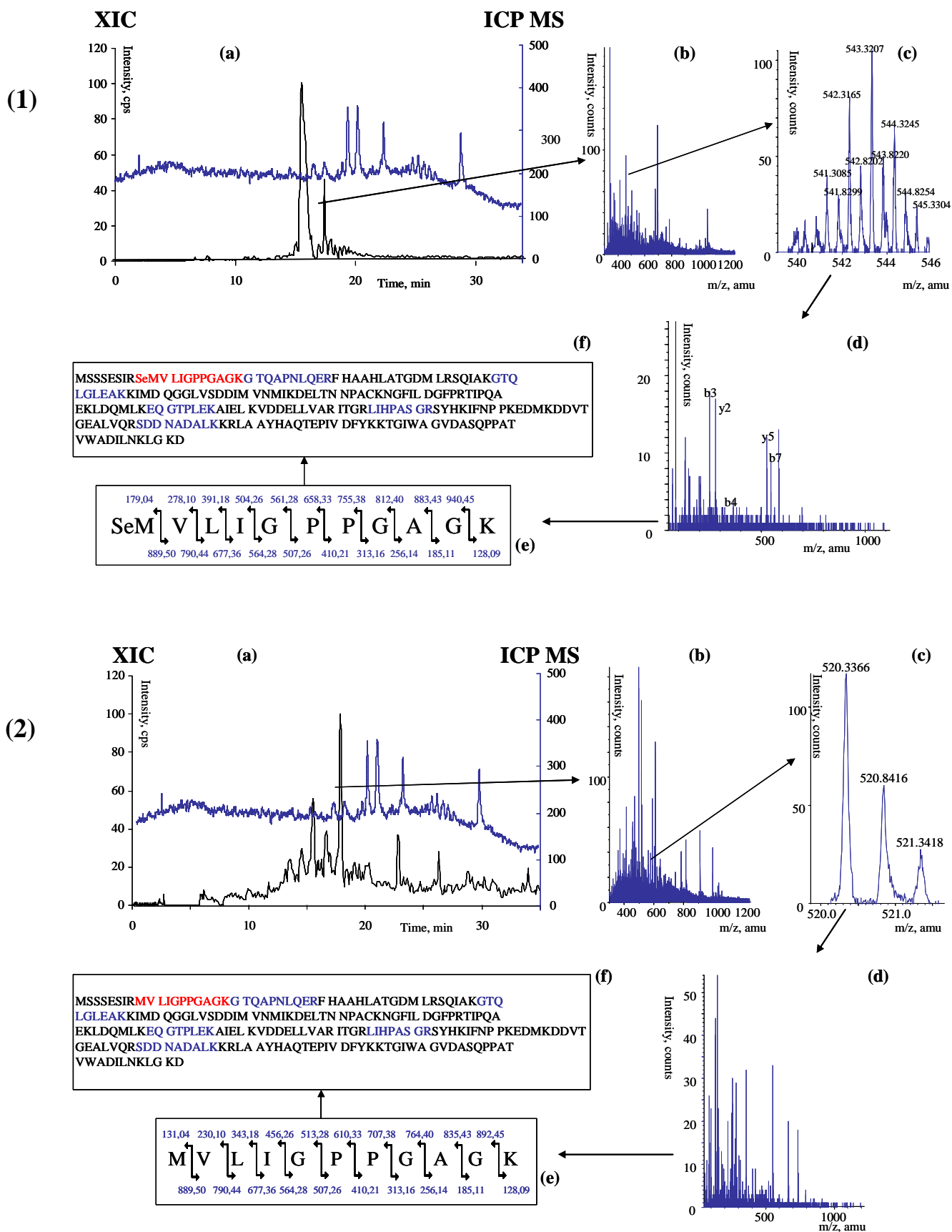


Figure 8: Spot 9. Identification of selenium – containing Adenylate kinase.

(1): Identification of the selenium - containing protein. (2): Identification of the sulfur homologue.

(a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the protein identified by database search.

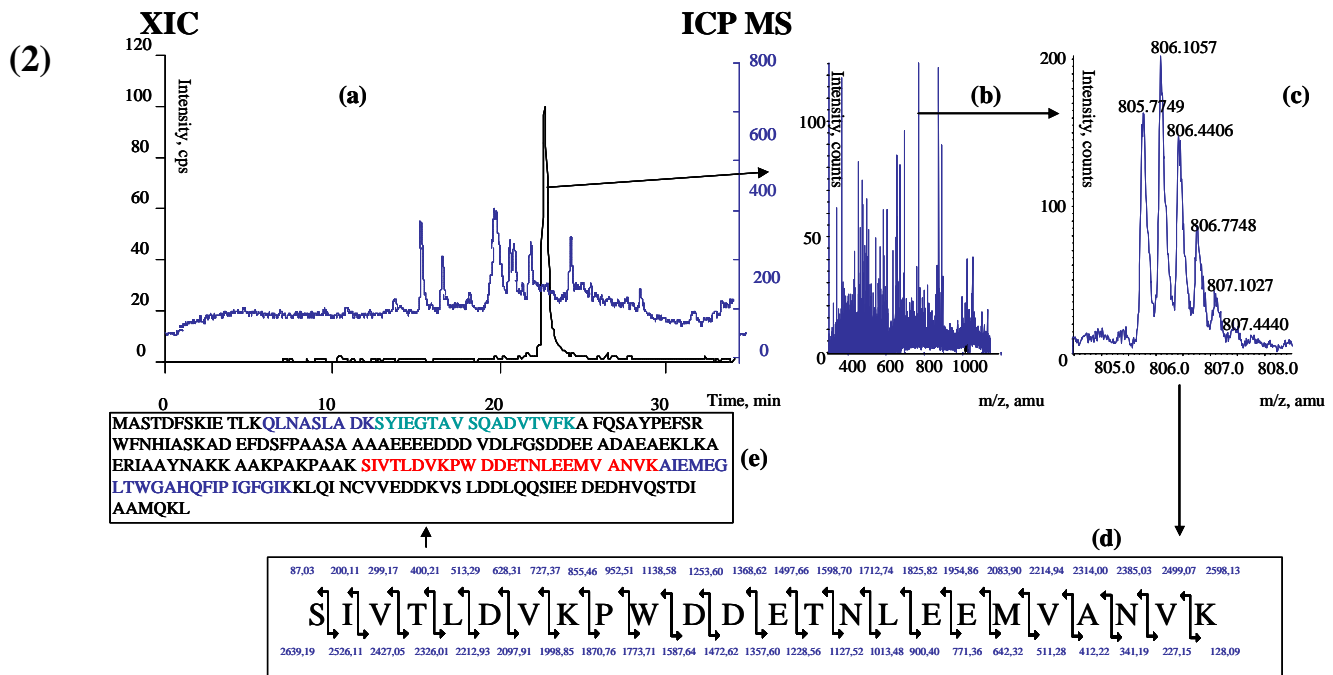
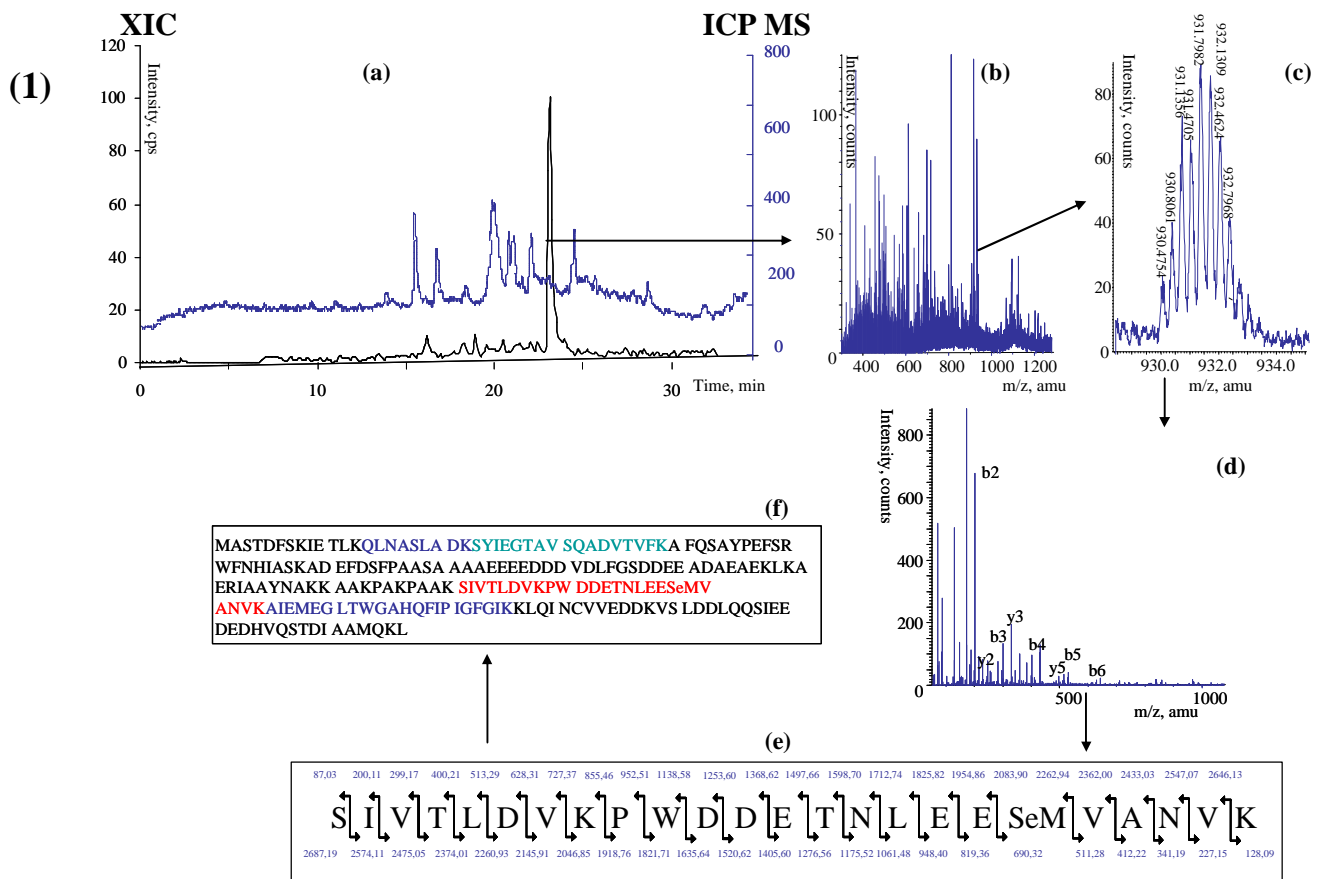


Figure 9: Spot 9. Identification of selenium - containing Elongation factor 1-beta.

(1) : Identification of the selenium - containing protein. (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, Se-peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : peptide sequence identified. (f) : Sequence of the selenium - containing protein identified by database search.

(2): Identification of the sulfur homologue. (a) : NanoHPLC-ICP MS and nanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, S-peptide detection by characteristic isotopic pattern. (d) : peptide sequence identified. (e) : Sequence of the sulfur - containing protein identified by database search.

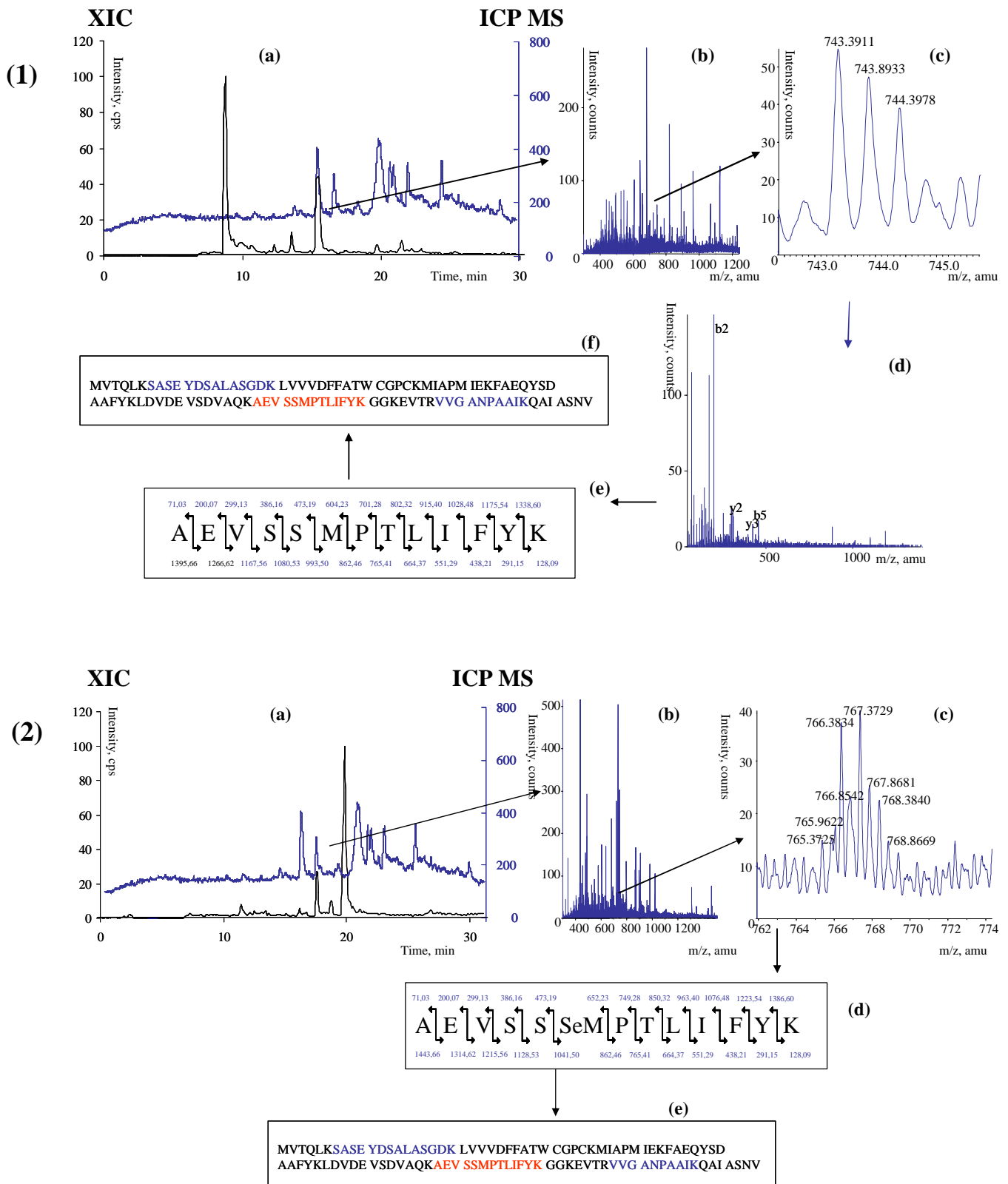


Figure 10: Spot 9. Identification of selenium – containing Thioredoxin II.

(1): Identification of the sulfur homologue. (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis.

(b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, S-peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the sulfur - containing protein identified by database search.

(2): Identification of the selenium - containing protein (a) : NanoHPLC-ICP MS and nanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, Se-peptide detection by characteristic isotopic pattern. (d) : Peptide sequence identified. (e) : Sequence of the selenium - containing protein identified by database search.

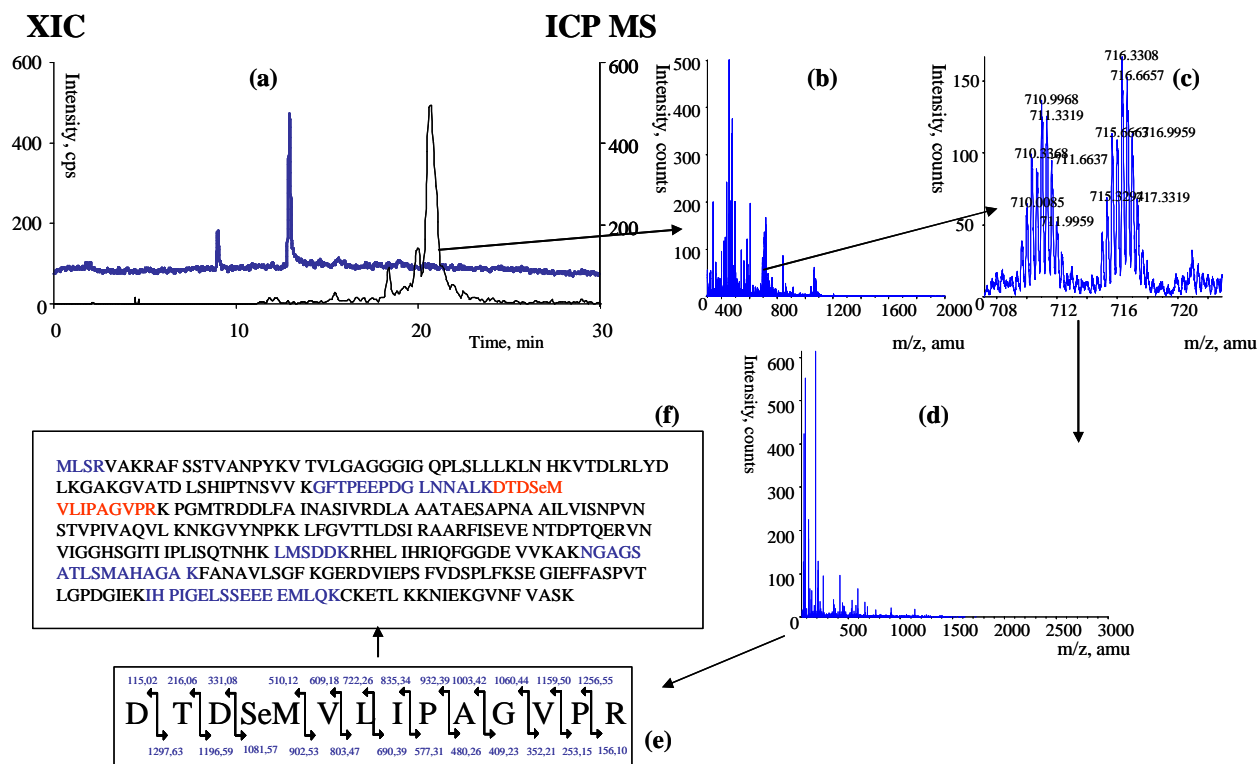


Figure 11: Spot 10. Identification of selenium – containing Malate dehydrogenase. (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, Se-peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the selenium - containing protein identified by database search.

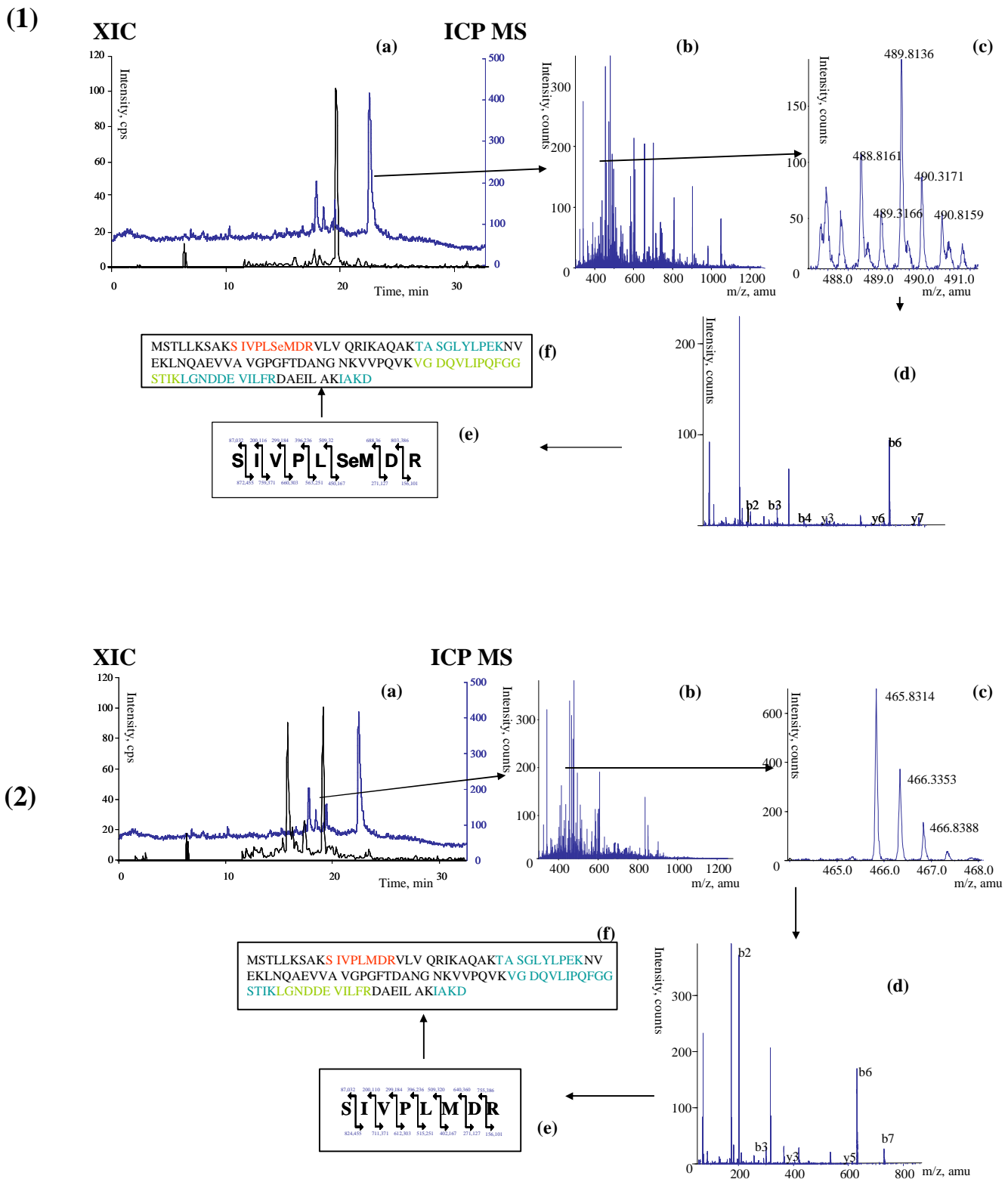


Figure 12: Spot 13. Identification of selenium - containing HSP 10.

(1): Identification of the selenium - containing protein. (2): Identification of the sulfur homologue.

(a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the protein identified by database search.

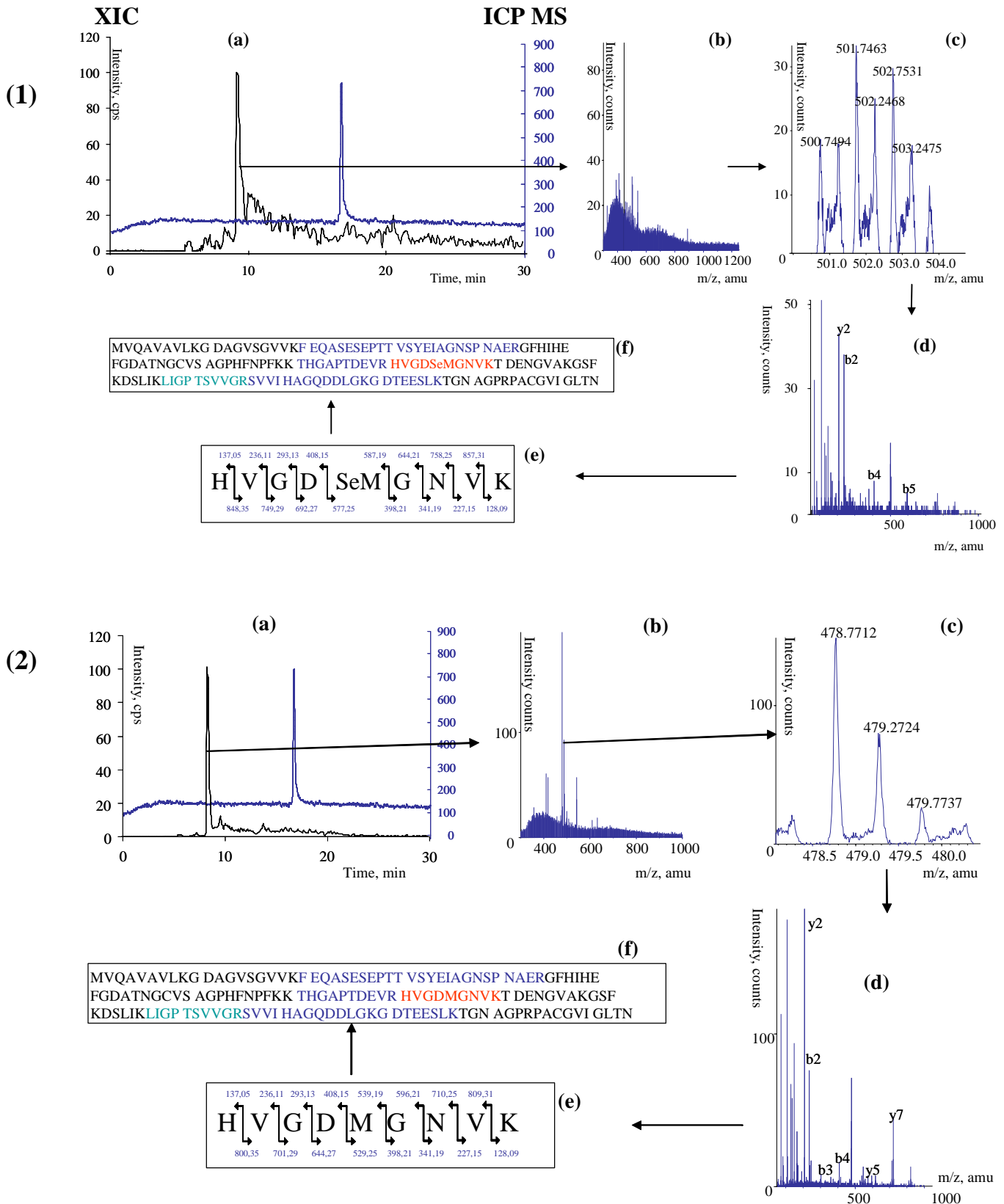


Figure 13: Spot 14. Identification of selenium - containing Superoxide dismutase. (1): Identification of the selenium - containing protein. (2): Identification of the sulfur homologue. (a) : NanoHPLC-ICP MS and NanoHPLC-ESI MS/MS analysis. (b) : ESI MS spectrum. (c) : Zoom of the ESI MS spectrum, peptide detection by characteristic isotopic pattern. (d) : ESI MS/MS spectrum. (e) : Peptide sequence identified. (f) : Sequence of the protein identified by database search.