

Nicolas Vargas

Search history

Search PN=(WO2018035592) (Results 1)

1:

Search [SP]: 1. method of comparison of spectra from a sample spectrum and at least one spectrum of a reference library, the method comprising the steps of: obtaining at least one relevant spectral peak from the sample spectrum, and comparing each of the relevant spectral peaks with the spectra in the reference library, wherein: the relevant spectral peaks are identified from a sample spectrum variation parameter, and the relevant spectral peaks are obtained within a region of interest in the sample spectrum. 2. the method of comparison of spectra according to claim 1, wherein: each of the reference library spectra comprises at least one reference spectral peak, and the method further comprises the step of comparing each of the relevant spectral peaks of the sample with each of the reference spectral peaks of the reference spectra. 3. the method of comparison of spectra according to claim 2, further comprising the steps of: checking if there is an equivalence of one of the relevant spectral peaks of the sample with the reference spectral peaks of the reference spectra, and if an equivalence is detected, correlating the sample spectrum with the spectrum of the reference library around the relevant spectral peak of the sample and the reference spectral peak where the equivalence is detected. 4. the method of comparison of spectra according to claim 3, wherein: the step of correlating the sample spectrum with the spectrum of the reference library around the relevant spectral peak of the sample and reference spectral peak is performed within a spectral window, and the method further comprises the step of, within the spectral window, considering absorbance values of the sample spectrum and of the reference material spectrum during the correlation of the sample spectrum with the reference material's spectrum. 5. the method of comparison of spectra according to claim 3, wherein, if not detected an equivalence between one of the relevant spectral peaks of the sample and the spectral reference peaks of the reference spectra, the method further comprises the step of correlating a second derivative of the sample spectrum with a second derivative from the reference spectrum library in a dispersion region, the dispersion region obtained from the second derivative of the spectrum in the reference library. 6. a method of comparison of spectra according to claim 5, wherein the step of correlating the sample spectrum with the reference library spectrum and the step of correlating a second derivative of the sample spectrum with a second derivative of the reference library spectrum are performed through one of the following methods: pearson correlation formula, cosine similarity and spearman correlation coefficient. 7. a method of comparison of spectra from the spectrum of a sample and at least one spectrum of a reference library, the method comprising the steps of: obtaining a second derivative of the sample spectrum and of the spectrum in the reference library, and correlating the second derivative of the sample spectrum with the second derivative of the reference library spectrum, wherein the step of correlating the second derivative of the sample spectrum with the second derivative of the reference library spectrum is performed in a dispersion region, the dispersion region being obtained from the second derivative of the reference library spectrum. 8. the method of comparison of spectra according to claim 7, wherein the dispersion region is determined from calculating at least one dispersion parameter related to the wavelengths of the second derivative of the reference library spectrum, the dispersion parameter related to a dispersion range of the reference library spectrum. 9. the method of comparison of spectra according to claim 8, wherein, within the dispersion region, consider absorbance values of the second derivative of the sample spectrum and of the second derivative of the reference library spectrum during the correlation of the second derivative of the sample spectrum with the second derivative of the reference library spectrum. 10. a method of comparison of spectra with the identification of a major component of a sample, the method comprising the steps of: obtaining a spectrum of the sample and of a reference, previously identifying the major component present in the sample, correlating the sample spectrum with the reference spectrum, obtaining a first correlation value, correlating the reference spectrum with a spectrum of the major component, obtaining a second correlation value, and comparing the first correlation value with the second correlation value. 11. the method of comparison of spectra with the identification of the major component of a sample according to claim 10, wherein: the method further comprises the step of defining a dispersion region from a second derivative of the reference spectrum, the dispersion region is obtained from the calculation of at least one dispersion parameter related to the wavelengths of the second derivative of the reference spectrum, and the steps to correlate the sample spectrum with the reference spectrum and correlating the reference spectrum with the spectrum of the major component of the sample are carried out within the limits defined by the dispersion region. 12. the method of comparison of spectra with the identification of the major component of a sample according to claim 11, further comprising the step of subtracting from the value obtained for the correlation between the reference spectrum with the spectrum of the sample, the value obtained in the correlation between the reference spectrum with the spectrum of the major component. 13. the method of comparison of spectra with the identification of the major component of a sample according to claim 12, further comprising the steps of: correlating, within the limits defined by the dispersion region, the second derivative of the sample spectrum with the second derivative of the reference spectrum, and correlating, within the limits defined by the dispersion region, the second derivative of the reference spectrum with the second derivative of the major component spectrum. 14. the method of comparison between spectra with the identification of the major component of a sample according to claim 13, further comprising the step of subtracting from the value obtained for the correlation between the second derivative of the sample spectrum with the second derivative of the reference spectrum the value obtained from the correlation between the second derivative of the reference spectrum with the second derivative of the spectrum of the major component. (Results 0)

Search [SP]: methodology for the identification of materials through methods of comparison of the spectrum of a sample against a reference

3: library of spectra of materials a method of comparison of spectra from the spectrum of a sample and at least one spectrum of a reference library is provided. the method involves: obtaining at least one relevant spectral peak from the sample spectrum and comparing each of the relevant spectral peaks obtained with the spectra in the reference library. methods are also described for: comparison of spectra from the second derivative of the sample spectrum and the second derivative of the reference library spectra and comparison of spectra with the previous identification of the major component of a sample, which involves correlating triangularly the spectra of the sample, the reference and the major component. (Results 0)

Search PN=(US2010158385) (Results 1)

4:

Search [SP]: 1. a method for use in an object scanning process, comprising: obtaining a reference spectrum that includes a plurality of reference peaks and comparing the reference spectrum with an input spectrum that has a plurality of input peaks wherein a number of the reference peaks is less than eight. 2. the method of claim 1, wherein the act of comparing is performed to determine a degree of similarity between the input spectrum and the reference spectrum. 3. the method of claim 1, wherein the act of comparing is performed using a reverse-matching technique in which one of the reference peaks from the reference spectrum is compared with multiple ones of the plurality of input peaks from the input spectrum. 4. the method of claim 1, wherein the act of comparing comprises determining a score that represents a degree of similarity between the input spectrum and the reference spectrum. 5. the method of claim 4, wherein the score is based at least on a difference between a position of one of the reference peaks and a position of one of the input peaks, and a ratio calculated using a magnitude of the one of the reference peaks and a magnitude of the one of the input peaks. 6. the method of claim 4, wherein the score is determined by weighting a matched peak that has a higher magnitude more than a matched peak that has a lower magnitude. 7. the method of claim 4, wherein the act of comparing further comprises normalizing the score. 8. the method of claim 1, wherein the input spectrum is for an object that is being scanned by a luggage scanning machine. 9. the method of claim 1, wherein the act of comparing is performed using a function:
$$\text{[ftimg=37051870]} \text{ score} = ? i [y_r, i ? j (? - (x_r, i - x_m, j a) 2 ? - (\ln (y_r, i / y_m, j) b) 2)]$$
, or a variation thereof, wherein (x_r, i, y_r, i) is a position and magnitude of an i 'th peak in the reference spectrum, (x_m, i, y_m, i) is a position and magnitude of a j 'th peak in the input spectrum, and values a and b are user selected inputs. 10. a system for use in an object scanning process, comprising: a processor, wherein the processor is configured for: obtaining a reference spectrum that includes a plurality of reference peaks and comparing the reference spectrum with an input spectrum that has a plurality of input peaks wherein a number of the reference peaks is less than eight. 11. the system of claim 10, wherein the processor is configured for performing the act of comparing to determine a degree of similarity between the input spectrum and the reference spectrum. 12. the system of claim 10, wherein the processor is configured for performing the act of comparing by using a reverse-matching technique. 13. the system of claim 10, wherein the processor is configured for performing the act of comparing by determining a score that represents a degree of similarity between the input spectrum and the reference spectrum. 14. the system of claim 13, wherein the score is based at least on a difference between a position of one of the reference peaks and a position of one of the input peaks, and a ratio calculated using a magnitude of the one of the reference peaks and a magnitude of the one of the input peaks. 15. the system of claim 14, wherein the processor is configured to determine the score by weighting a matched peak that has a higher magnitude more than a matched peak that has a lower magnitude. 16. the system of claim 13, wherein the processor is further configured for normalizing the score. 17. the system of claim 10, wherein the input spectrum is for an object that is being scanned by a luggage scanning machine. 18. the system of claim 10, wherein the processor is configured to perform the act of comparing by using a function:
$$\text{[ftimg=37051871]} \text{ score} = ? i [y_r, i ? j (? - (x_r, i - x_m, j a) 2 ? - (\ln (y_r, i / y_m, j) b) 2)]$$
, or a variation thereof, wherein (x_r, i, y_r, i) position and magnitude of an i 'th peak in the reference spectrum, (x_m, i, y_m, i) is a position and magnitude of a j 'th peak in the input spectrum, and values a and b are user selected inputs. 19. a method for use in an object scanning

process, comprising: obtaining a reference spectrum that includes a plurality of reference peaks comparing one of the reference peaks with a plurality of input peaks from an input spectrum comparing another one of the reference peaks with the plurality of input peaks from the input spectrum and determining a degree of similarity between the reference spectrum and the input spectrum using a result from the acts of comparing. 20. the method of claim 19, wherein a number of the reference peaks is less than eight. 21. the method of claim 19, wherein the acts of comparing are performed using a reverse-matching technique. 22. the method of claim 19, wherein the act of determining the degree of similarity comprises determining a score. 23. the method of claim 22, wherein the score is determined based at least on a difference between a position of the one of the reference peaks and a position of one of the input peaks, and a ratio calculated using a magnitude of the one of the reference peaks and a magnitude of the one of the input peaks. 24. the method of claim 22, wherein the score is determined by weighting a matched peak that has a higher magnitude more than a matched peak that has a lower magnitude. 25. the method of claim 22, wherein the act of determining the degree of similarity further comprises normalizing the score. 26. the method of claim 19, wherein the input spectrum is for an object that is being scanned by a luggage scanning machine. 27. the method of claim 19, wherein the acts of comparing and the act of determining the degree of similarity are performed using a function:
$$\text{score} = ? i [y r, i ? j (? - (x r, i - x m, j a) 2 ? - (\ln (y r, i / y m, j) b) 2)]$$
, or a variation thereof, wherein $(x r, i, y r, i)$ is a position and magnitude of an i'th peak in the reference spectrum, $(x m, j, y m, j)$ is a position and magnitude of a j'th peak in the input spectrum, and values a and b are user selected inputs. 28. a system for use in an object scanning process, comprising: a processor, wherein the processor is configured for: obtaining a reference spectrum that includes a plurality of reference peaks comparing one of the reference peaks with a plurality of input peaks from an input spectrum comparing another one of the reference peaks with the plurality of input peaks from the input spectrum and determining a degree of similarity between the reference spectrum and the input spectrum using a result from the acts of comparing. 29. the system of claim 28, wherein a number of the reference peaks is less than eight. 30. the system of claim 28, wherein the processor is configured to perform the acts of comparing using a reverse-matching technique. 31. the system of claim 28, wherein the processor is configured to determine a score that represents the degree of similarity. 32. the system of claim 31, wherein the processor is configured to determine the score based at least on a difference between a position of the one of the reference peaks and a position of one of the input peaks, and a ratio calculated using a magnitude of the one of the reference peaks and a magnitude of the one of the input peaks. 33. the system of claim 31, wherein the processor is configured to determine the score by weighting a matched peak that has a higher magnitude more than a matched peak that has a lower magnitude. 34. the system of claim 31, wherein the processor is configured for normalizing the score. 35. the system of claim 28, wherein the input spectrum is for an object that is being scanned by a luggage scanning machine. 36. the system of claim 28, wherein the processor is configured to perform the acts of comparing and the act of determining the degree of similarity using a function:
$$\text{score} = ? i [y r, i ? j (? - (x r, i - x m, j a) 2 ? - (\ln (y r, i / y m, j) b) 2)]$$
, or a variation thereof, wherein $(x r, i, y r, i)$ is a position and magnitude of an i'th peak in the reference spectrum, $(x m, j, y m, j)$ is a position and magnitude of a j'th peak in the input spectrum, and values a and b are user selected inputs. 37. a method for use in an object scanning process, comprising: obtaining a reference spectrum that includes a reference peak comparing the reference peak with an input peak from an input spectrum, wherein the act of comparing comprises determining information regarding a positional match between the reference peak and the input peak, and information regarding a magnitude match between the reference peak and the input peak and using a result from the act of comparing to determine a degree of similarity between the reference spectrum and the input spectrum. 38. the method of claim 37, wherein the information regarding the positional match comprises a difference between a position of the referen (Results 0)

Search [SP]: rapid matching of noisy spectra or other signal patterns a method for use in an object scanning process includes obtaining a reference spectrum that includes a plurality of reference peaks, and comparing the reference spectrum with an input spectrum that has a plurality of input peaks, wherein a number of the reference peaks is less than eight. a method for use in an object scanning process includes obtaining a reference spectrum that includes a plurality of reference peaks, comparing one of the reference peaks with a plurality of input peaks from an input spectrum, comparing another one of the reference peaks with the plurality of input peaks from the input spectrum, and determining a degree of similarity between the reference spectrum and the input spectrum using a result from the acts of comparing. (Results 9)

Search 6 and spectr* (Results 6)
7:

Search 7 and pd<20160626 (Results 3)
8:

1) Family number: 33189011 (US2008128607A)

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Title: MASS **SPECTROMETRY** ANALYSIS METHOD AND SYSTEM

Abstract: The invention relates to a method and device for analyzing a sample containing a number of substances. The method comprises the following steps: recording one or more mass **spectra** (mass **spectra** data D) of the sample (P); deconvoluting the mass **spectra** in a first evaluating device (A), which assigns the chromatographic peaks (a) and their associated deconvoluted mass **spectra** of one substance at a time based on the correspondence with a reference **spectrum** of the substance, and/or determining the intensity of the obtained peaks of the ions of the mass **spectra** in an evaluating device (B), which assigns the chromatographic peaks (b) of the ions and their associated mass **spectra** based on the correspondence of selective ions and their retention time ranges of the peaks (b) with the reference values of the substance predetermined for a substance, and verifying the assignments in a validating device (V).

Classifications:

International (IPC 8-9): B01D59/44 G01F19/00 G01N30/72

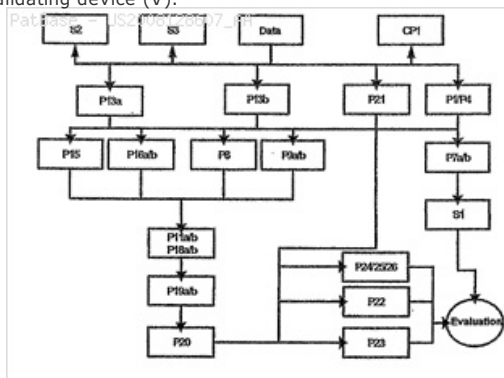
G01N30/86 (Advanced/Invention);

B01D59/00 G01F19/00 G01N30/00 (Core/Invention)

CPC: G01N30/72 G01N30/8675 G01N30/8696

European: G01N30/72 G01N30/86G S01N30/86S

US: 250/281 250/282 250/339.07 324/717 702/22



Family:

Publication number	Publication date	Application number	Application date
AU2006210088 AA	20060810	AU20060210088	20060201
AU2012202251 AA	20120510	AU20120202251	20120418
AU2012202251 BB	20140410	AU20120202251	20120418
CA2596381 AA	20070730	CA20062596381	20060201
CA2596381 C	20160503	CA20062596381	20060201
EP1846757 A2	20071024	EP20060706558	20060201
US2008128607 AA	20080605	US20060815220	20060201
US7606667 BB	20091020	US20060815220	20060201
WO06082042 A2	20060810	WO2006EP00883	20060201
WO06082042 A3	20070524	WO2006EP00883	20060201

Priority:

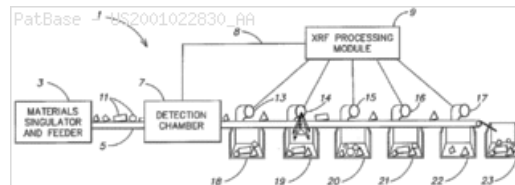
EP20050100825 20050201 AU20060210088 20060201 WO2006EP00883 20060201
EP20060706558 20060201 AU20120202251 20120418

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Title: HIGH SPEED MATERIALS SORTING USING X-RAY FLUORESCENCE

Abstract: A system and process for classifying a piece of material of unknown composition at high speeds, where the system connected to a power supply. The piece is irradiated with first x-rays from an x-ray source, causing the piece to fluoresce x-rays. The fluoresced x-rays are detected with an x-ray detector, and the piece of material is classified from the detected fluoresced x-rays. Detecting and classifying may be cumulatively performed in less than one second. An x-ray fluorescence **spectrum** of the piece of material may be determined from the detected fluoresced x-rays, and the detection of the fluoresced x-rays may be conditioned such that accurate determination of the x-ray fluorescence **spectrum** is not significantly compromised, slowed or complicated by extraneous x-rays. The piece of material may be classified by recognizing the **spectral** pattern of the determined x-ray fluorescence **spectrum**. The piece of material may be flattened prior to irradiation and detection. The x-ray source may irradiate the first x-rays at a high intensity, and the x-ray source may be an x-ray tube.

Classifications:**International (IPC 8-9):** B07C5/342 B07C5/346 G01N23/04 G01N23/223 G01T1/36 (Advanced/Invention); B07C5/34 G01N23/22 (Core/Invention)**International (IPC 1-7):** B07C5/346 G01B15/06 G01N23/02 G01N23/223 G01T1/36**CPC:** B07C5/3427 B07C5/346 B07C5/365 G01N23/223 G01N2223/076 B07C2501/0036**European:** B07C5/342D1 B07C5/346 B07C5/36C1 G01N23/223**US:** 378/44 378/44P 378/44S 378/45 378/45P 378/46 378/49 378/49P 378/49S 378/57 378/58 378/58P**Family:**

Publication number	Publication date	Application number	Application date
US2001022830 AA	20010920	US20010827784	20010406
US2003147494 AA	20030807	US20030364783	20030211
US2005078786 AA	20050414	US20040967981	20041019
US2006013360 AA	20060119	US20050232574	20050922
US2006239401 AA	20061026	US20060357432	20060217
US2008279329 AA	20081113	US20080138927	20080613
US2010111252 AA	20100506	US20090605623	20091026
US2011222654 AA	20110915	US20110114223	20110524
US6266390 BA	20010724	US19990400491	19990921
US6519315 BB	20030211	US20010827784	20010406
US6888917 BB	20050503	US20030364783	20030211
US7616733 BB	20091110	US20080138927	20080613
US7978814 BB	20110712	US20090605623	20091026
US8553838 BB	20131008	US20110114223	20110524
WO0122072 A1	20010329	WO1999US22177	19990924

Priority:

US19980101128P 19980921 US19990400491 19990921 US20010827784 20010406
US20030364783 20030210 US20030364783 20030211 US20040967981 20041019
US20050232574 20050922 US20060357432 20060217 US20080138927 20080613
US20090605623 20091026 US20110114223 20110524

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Title: RAPID MATCHING OF NOISY **SPECTRA** OR OTHER SIGNAL PATTERNS

Abstract: A method for use in an object scanning process includes obtaining a reference **spectrum** that includes a plurality of reference peaks, and comparing the reference **spectrum** with an input **spectrum** that has a plurality of input peaks, wherein a number of the reference peaks is less than eight. A method for use in an object scanning process includes obtaining a reference **spectrum** that includes a plurality of reference peaks, comparing one of the reference peaks with a plurality of input peaks from an input **spectrum**, comparing another one of the reference peaks with the plurality of input peaks from the input **spectrum**, and determining a degree of similarity between the reference **spectrum** and the input **spectrum** using a result from the acts of comparing.

Classifications:

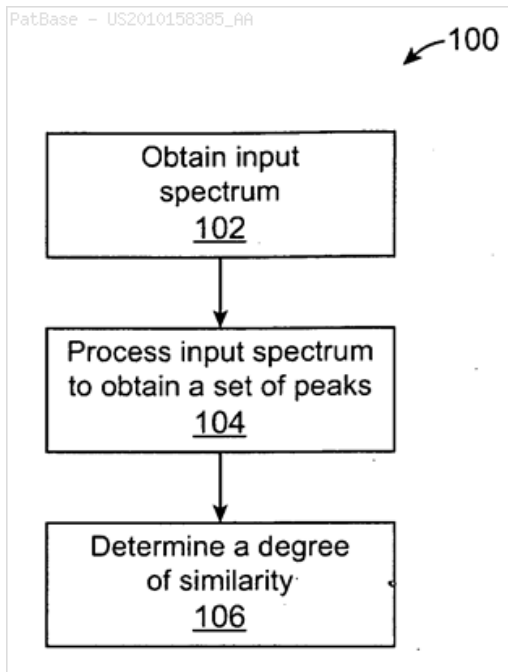
International (IPC 8-9): G06K9/00 G06K9/46 (Advanced/Invention); G06K9/46 (Core/Invention)

CPC: G01N23/087

European: G01N23/087

US: 382/141 382/191 382/191P

PatBase - US2010158385_AA



Family:

Publication number	Publication date	Application number	Application date
US2010158385 AA	20100624	US20080340685	20081220
US8135205 BB	20120313	US20080340685	20081220

Priority:

US20080340685 20081220

Probable Assignee: VARIAN MEDICAL SYSTEMS INC

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