SUMMARY

[0006] ~~In one exemplary embodiment,~~There is disclosed a method for generating a data visualization ~~is provided~~. The method includes displaying a representation of a portion of detected data from a substrate to a user. The method further includes generating a data quality value for the portion of detected data and displaying, along with the representation of the portion of detected data, an indication of data quality value for the portion of detected data. The method further includes selecting, by the user, a quality value threshold, and displaying an adjusted indication of data quality value for the portion of detected data meeting the quality value threshold.

[0006a] ~~In another exemplary embodiment, there is provided~~There is also disclosed a system for generating a data visualization, the system comprising:

a processor; and

a memory encoded with instructions for:

displaying a representation of a portion of detected data from a substrate to a user;

generating a data quality value for the portion of detected data;

displaying, along with the representation of the portion of detected data, an indication of data quality value for the portion of detected data;

selecting, by the user, a quality value threshold; and

displaying an adjusted indication of data quality value for the portion of detected data meeting the quality value threshold.

[0006b] ~~In another exemplary embodiment, t~~There is ~~also provided~~ disclosed a non-transitory computer-readable storage medium encoded with instructions, executable by a processor, the instructions comprising instructions for:

displaying a representation of a portion of detected data from a substrate to a user;

generating a data quality value for the portion of detected data;

displaying, along with the representation of the portion of detected data, an indication of data quality value for the portion of detected data;

selecting, by the user, a quality value threshold; and

displaying an adjusted indication of data quality value for the portion of detected data meeting the quality value threshold.

[0007] In ~~another~~ an exemplary embodiment, a method for calculating a result for a biological analysis is provided. The method includes displaying to a user a scatter plot of emission data from a plurality of reaction sites and determining a classification for each data point. The method further includes receiving a selection of a data point to change the determined classification to a second classification, wherein the data point has been visualized to the user and has been selected by the user by selecting a visualization of the data point. The method includes calculating a result based on a number of data points in each classification. In some embodiments, the result is a concentration of a target molecule. According to various embodiments, classifications may include: positive reaction, negative reaction, FAM, VIC, FAM and VIC, no amplification, empty, and undetermined.

[0007a] In another embodiment, there is provided a non-transitory computer readable storage medium encoded with instructions for calculating a result for a biological analysis, executable by a processor, the instructions for:

displaying to a user a scatter plot of emission data from a plurality of reaction sites, determining a classification for each data point;

receiving a selection of a data point to change the determined classification to a second classification, wherein the data point has been visualized to the user and has been selected by the user by selecting a visualization of the data point; and

calculating a result based on a number of data points in each classification.

DESCRIPTION OF THE FIGURES

[0008] FIG. 1 illustrates an exemplary computing system that various embodiments described herein may be implemented.

[0009] FIG. 2 illustrates a data visualization according to various embodiments described herein.

[0010] FIG. 3 illustrates a data visualization according to various embodiments described herein.

[0011] FIG. 4 illustrates a data visualization according to various embodiments described herein.

What is claimed is:

~~1. A method for generating a data visualization, the method comprising:~~

~~displaying a representation of a portion of detected data from a substrate to a user;~~

~~generating a data quality value for the portion of detected data;~~

~~displaying, along with the representation of the portion of detected data, an indication of data quality value for the portion of detected data;~~

~~selecting, by the user, a quality value threshold; and~~

~~displaying an adjusted indication of data quality value for the portion of detected data meeting the quality value threshold.~~

~~2. The method of claim 1, wherein the indication of data quality value is a color.~~

~~3. The method of claim 1, wherein the indication of data quality value for the portion of detected data is a heatmap display.~~

~~4. The method of claim 1, wherein the portion of detected data is fluorescent emission data.~~

~~5. The method of claim 4, wherein the fluorescent emission data is detected from a plurality of reaction sites on the substrate.~~

~~6. The method of claim 5, wherein the plurality of reaction sites is at least 20000 reaction sites.~~

~~7. The method of claim 5, wherein the plurality of reaction sites is at least 40000 reaction sites.~~

~~8. The method of claim 1, further comprising:~~

~~displaying at least two portions of detected data from a substrate to the user.~~

~~9. The method of claim 1, wherein the portion of detected data meeting the quality value threshold is used in a quantification calculation.~~

~~10. The method of claim 9, wherein the quantification is based on a Poisson maximum-likelihood algorithm.~~

~~11. The method of claim 5, wherein the representation represents the data detected corresponding to the arrangement of the plurality of reaction sites.~~

~~12. A method of claim 1, further comprising:~~

~~displaying a first histogram of intensity of emission data along with the indication of data quality value for the detected data.~~

~~13. The method of claim 12, further comprising:~~

~~displaying a second histogram of intensity of emission data along with the first histogram and the indication of quality value.~~

~~14. A system for generating a data visualization, the system comprising:~~

~~a processor; and~~

~~a memory encoded with instructions for:~~

~~displaying a representation of a portion of detected data from a substrate to a user;~~

~~generating a data quality value for the portion of detected data;~~

~~displaying, along with the representation of the portion of detected data, an indication of data quality value for the portion of detected data;~~

~~selecting, by the user, a quality value threshold; and~~

~~displaying an adjusted indication of data quality value for the portion of detected data meeting the quality value threshold.~~

~~15. A non-transitory computer-readable storage medium encoded with instructions, executable by a processor, the instructions comprising instructions for:~~

~~displaying a representation of a portion of detected data from a substrate to a user;~~

~~generating a data quality value for the portion of detected data;~~

~~displaying, along with the representation of the portion of detected data, an indication of data quality value for the portion of detected data;~~

~~selecting, by the user, a quality value threshold; and~~

~~displaying an adjusted indication of data quality value for the portion of detected data meeting the quality value threshold.~~

~~16. The computer-readable medium of claim 15, wherein the indication of data quality value is a color.~~

~~17. The computer-readable medium of claim 15, wherein the indication of data quality value for the portion of detected data is a heatmap display.~~

~~18. The computer-readable medium of claim 15, wherein the portion of detected data is fluorescent emission data.~~

~~19. The computer-readable medium of claim 18, wherein the fluorescent emission data is detected from a plurality of reaction sites on the substrate.~~

~~20. The computer-readable medium of claim 19, wherein the plurality of reaction sites is at least 20000 reaction sites.~~

~~21. The computer-readable medium of claim 19, wherein the plurality of reaction sites is at least 40000 reaction sites.~~

~~22. The computer-readable medium of claim 15, further comprising instructions for:~~

~~displaying at least two portions of detected data from a substrate to the user.~~

~~23~~1. A method for calculating a result for a biological analysis, the method comprising:

displaying to a user a scatter plot of emission data from a plurality of reaction sites,

determining a classification for each data point;

receiving a selection of a data point to change the determined classification to a second classification, wherein the data point has been visualized to the user and has been selected by the user by selecting a visualization of the data point; and

calculating ~~a~~ the result based on a number of data points in each classification.

~~24~~2. The method of claim ~~23~~1, wherein the scatter plot displays ~~one~~ a first fluorescent type versus a second fluorescent type.

~~25~~3. The method of claim ~~23~~1, wherein the classification is one of the following group: positive reaction, negative reaction, ~~FAM~~the first fluorescent type, ~~VIC~~the second fluorescent type, the first fluorescent type ~~FAM~~ and the second fluorescent type~~VIC~~, no amplification, empty, and undetermined.

~~26~~4. The method of claim ~~23~~1, wherein the second classification is different than the determined classification.

~~27~~5. The method of claim ~~23~~1, wherein the calculated result is a copy number of a target molecule.

~~28~~6. The method of claim ~~23~~1, wherein the calculated result is a concentration of a target molecule.

~~29~~7. The method of claim ~~23~~1, wherein the calculated result is based on a Poisson maximum-likelihood algorithm.

~~30~~8. A non-transitory computer readable storage medium encoded with instructions for calculating a result for a biological analysis, executable by a processor, the instructions for:

displaying to a user a scatter plot of emission data from a plurality of reaction sites,

determining a classification for each data point;

receiving a selection of a data point to change the determined classification to a second classification, wherein the data point has been visualized to the user and has been selected by the user by selecting a visualization of the data point; and

calculating a result based on a number of data points in each classification.

~~319~~. The non-transitory computer readable storage medium of claim ~~308~~, wherein the scatter plot displays ~~one~~ a first fluorescent type versus a second fluorescent type.

~~3210~~. The non-transitory computer readable storage medium of claim ~~308~~, wherein the classification is one of the following group: positive reaction, negative reaction, ~~FAM~~the first fluorescent type, ~~VIC~~the second fluorescent type, ~~FAM~~ the first fluorescent type and ~~VIC~~the second fluorescent type, no amplification, empty, and undetermined.

~~3311~~. The non-transitory computer readable storage medium of claim ~~308~~, wherein the second classification is different than the determined classification.

~~3412~~. The non-transitory computer readable storage medium of claim ~~308~~, wherein the calculated result is a copy number of a target molecule.

~~3513~~. The non-transitory computer readable storage medium of claim ~~308~~, wherein the calculated result is a concentration of a target molecule.

~~3614~~. The non-transitory computer readable storage medium of claim ~~308~~, wherein the calculated result is based on a Poisson maximum-likelihood algorithm.