[0022] Another aspect of the present disclosure provides a non-transitory computer readable medium comprising machine executable code that, upon execution by one or more computer processors, implements any of the methods above or elsewhere herein.

[0023] Another aspect of the present disclosure provides a system comprising one or more computer processors and computer memory coupled thereto. The computer memory comprises machine executable code that, upon execution by the one or more computer processors, implements any of the methods above or elsewhere herein.

[0024] Additional aspects and advantages of the present disclosure will become readily apparent to those skilled in this art from the following detailed description, wherein only illustrative embodiments of the present disclosure are shown and described. As will be realized, the present disclosure is capable of other and different embodiments, and its several details are capable of modifications in various obvious respects, all without departing from the disclosure. Accordingly, the drawings and description are to be regarded as illustrative in nature, and not as restrictive.

[0024a] Another aspect of the present disclosure provides an assembly comprising: a stage having a sample positioning surface configured to receive a sample holder; a lid comprising an aperture, wherein the lid and the stage have a coupled configuration and an uncoupled configuration such that, when in the coupled configuration, a recess is formed by at least an interior wall of the lid and the sample positioning surface, wherein the aperture defines an opening to the recess; and one or more light sources configured to direct light within the recess.

[0024b] Another aspect of the present disclosure provides a method comprising: providing the assembly as described herein; positioning the sample holder on the sample positioning surface, wherein the sample holder comprises a glass support; and coupling the lid to the stage thereby securing the sample holder in the recess.

[0024c] Another aspect of the present disclosure provides an assembly comprising: a stage having a sample positioning surface configured to receive a sample holder, wherein the sample positioning surface defines a plane; a cam plate; a lid comprising an aperture, wherein the lid extends from a first end to a second end, wherein the lid is rotatably coupled to the stage via a hinge at the first end, wherein the lid and the stage have a coupled configuration and an uncoupled configuration such that, when in the coupled configuration, a recess is formed by at least an interior wall of the lid, the cam plate, and the sample positioning surface, wherein the aperture defines an opening to the recess; one or more cams rotatably coupled to the cam plate, wherein each cam is configured to rotate about an axis

perpendicular to the plane; and a cam pusher operably coupled to the hinge and the one or more cams, wherein the cam pusher is configured to translate when the hinge is actuated to thereby rotate the one or more cams.

[0024d] Another aspect of the present disclosure provides a method comprising: providing the assembly as described herein; positioning the sample holder on the sample positioning surface, wherein the sample holder comprises a glass support; and coupling the lid to the stage thereby translating the cam pusher and securing the sample holder in the recess via the one or more cams.

INCORPORATION BY REFERENCE

[0025] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference. To the extent publications and patents or patent applications incorporated by reference contradict the disclosure contained in the specification, the specification is intended to supersede and/or take precedence over any such contradictory material.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] The novel features of the invention are set forth with particularity in the appended claims. A better understanding of the features and advantages of the present invention will be obtained by reference to the following detailed description that sets forth illustrative embodiments, in which the principles of the invention are utilized, and the accompanying drawings (also "Figure" and "FIG." herein), of which:

[0027] **FIG. 1**. shows a schematic of using methacryloxymethyltrimethoxysilane to functionalize glass slide.

[0028] **FIG. 2A** shows an example result of using the contact angle test to verify the hydrophilicity change of the support after plasma cleaning.