CLAIMS

1. A flow cell, comprising:

a base support;

a protrusion over the base support, the protrusion being a different material than the base support;

a first functionalized layer over a first portion of the protrusion;

a second functionalized layer over a second portion of the protrusion; and

first and second primer sets respectively attached to the first and second functionalized layers.

2. The flow cell as defined in claim 1, wherein the flow cell further comprises a hydrophobic layer between the base support and the protrusion.

3. The flow cell as defined in claim 2, wherein:

the flow cell includes a plurality of the protrusions; and

each of the plurality of protrusions is spatially separated from another of the plurality of protrusions by interstitial regions of the hydrophobic layer.

4. The flow cell as defined in claim 3, wherein the interstitial regions of the hydrophobic layer at least substantially free of the first and second functionalized layers and of the first and second primer sets.

5. The flow cell as defined in claim 1, wherein:

the base support comprises a substrate that is transparent to ultraviolet light;

the protrusion comprises tantalum pentoxide; and

the flow cell further comprises a masking layer between the base support and the protrusion.

6. The flow cell as defined in claim 5, wherein:

the flow cell includes a plurality of the protrusions; and

each of the plurality of protrusions is spatially separated from another of the plurality of protrusions by interstitial regions of the base support.

7. The flow cell as defined in claim 6, further comprising a deactivated portion overlying the interstitial regions of the base support, the deactivated portion including a deactivated first functionalized layer or a deactivated first primer set.

8. The flow cell as defined in claim 1, wherein:

the first primer set includes an un-cleavable first primer and a cleavable second primer; and

the second primer set includes a cleavable first primer and an un-cleavable second primer.