What is claimed is:

1. A flow cell, comprising:

a substrate;

a plurality of chambers defined on or in the substrate;

a plurality of depressions defined in the substrate and within a perimeter of each of the plurality of chambers, wherein the depressions are separated by interstitial regions;

primers attached within each of the plurality of depressions; and

a capture site located within each of the plurality of chambers;

wherein the capture site:

(i) is a well that is defined in the substrate, wherein the well has an opening dimension that is larger than an opening dimension of each of the plurality of depressions;

(ii) is a protrusion having a chemical capture agent on a surface thereof; or

(iii) includes a chemical capture agent positioned on a portion of the interstitial regions.

2. The flow cell as defined in claim 1, wherein when the capture site is a well that is defined in the substrate, it further comprises a chemical capture agent within the well.

3. The flow cell as defined in claim 1, wherein when the capture site is a well that is defined in the substrate, it further comprises a capture bead within the well, wherein the capture bead is coated with a chemical capture agent.

4. The flow cell as defined in any of claims 1, 2 or 3 further comprising a hydrophobic material positioned on the substrate, wherein the hydrophobic material defines each of the plurality of chambers.

5. The flow cell as defined in any of claims 1, 2, 3 or 4 wherein each of the plurality of chambers has a height sufficient to block lateral diffusion of released library fragments between adjacent chambers.

6. The flow cell as defined in any of claims 1, 2, 3, 4 or 5 further comprising a polymer layer in each of the depressions, and wherein the primers are attached to the polymer layer.

7. The flow cell as defined in any of claims 1, 2, 3, 4, 5 or 6, wherein:

each of the plurality of chambers has an opening dimension ranging from about 1 µm to about 1000 µm;

each of the plurality of depressions has an opening dimension ranging from about 1 nm to about 2 µm; and

the chamber opening dimension is greater than the depression opening dimension.

8. The flow cell as defined in any of claims 1, 2, 3, 4, 5, 6 or 7, wherein:

the plurality of chambers is arranged in a first pattern across the substrate; and

respective sub-sets of the plurality of depressions are arranged in a second pattern within in each of the chambers.

9. The flow cell as defined in any of claims 1, 2, 3, 4, 5, 6, 7 or 8, wherein the plurality of chambers is patterned into the substrate.

10. A method, comprising:

introducing a plurality of complexes to a flow cell including:

a plurality of chambers;

a plurality of depressions within each of the plurality of chambers;

primers attached within each of the plurality of depressions; and

a capture site in each of the plurality of chambers;

wherein each of the complexes includes:

a carrier; and

sequencing-ready nucleic acid fragments attached to or contained within the carrier; whereby one of the complexes attaches to a respective one of the capture sites in at least some of the plurality of chambers; and

causing the carrier of each complex to release the sequencing-ready nucleic acid fragments therefrom, whereby walls of the respective chambers restrict transport and seeding of the sequencing-ready nucleic acid fragments to respective depressions within each of the respective chambers.