Claims:

1. A method of preparing an immobilized library of randomly fragmented, double-stranded nucleic acid fragments comprising:

   a. providing a solid support having CRISPR/Cas9 complexes immobilized thereon, wherein the CRISPR/Cas9 complexes comprise a CRISPR/Cas9 enzyme bound to a biotinylated first polynucleotide comprising a 3' portion comprising a CRISPR/Cas9 end sequence and a 5' portion comprising a single-stranded guide RNA (sgRNA) comprising a repeating subunit nucleotide sequence or a random sequence such that the CRISPR/Cas9 enzymes bind a target nucleic acid at a protospacer adjacent motif (PAM) sequence, and wherein the biotinylated first polynucleotide is bound to a biotin binding protein on the solid support; and

   b. applying a target double-stranded nucleic acid to the solid support under conditions whereby the target double-stranded nucleic acid is randomly fragmented by the CRISPR/Cas9 complexes, and the CRISPR/Cas9 complexes bind at least one strand of the double-stranded nucleic acid fragments; thereby producing an immobilized library of randomly fragmented, double-stranded nucleic acid fragments.

2. The method of claim 1, wherein the biotin binding protein comprises avidin, streptavidin, neutravidin, an anti-biotin antibody, a biotin receptor, and/or a biotin-binding enzyme.

3. The method of claim 2, wherein the biotin-binding enzyme comprises biotinidase or biotin holocarboxylase synthetase.

4. The method of claim 1 or claim 2, wherein applying the target double-stranded nucleic acid to the solid support comprises treating the CRISPR/Cas9 enzymes with one or more reagents that reduce the nucleic acid binding specificity of the CRISPR/Cas9 enzymes.

5. The method of claim 4, wherein the one or more reagents comprise betaine, dimethyl sulfoxide (DMSO), ethanol, ethylene glycol, dimethylacetamide, dimethylformamide, and/or sulphalane.

6. The method of any one of claims 1-5, comprising tagging the double-stranded nucleic acid fragments.

7. The method of claim 6, wherein the double-stranded nucleic acid fragments are tagged with a first tag comprising a first tag domain.

8. The method of claim 7, wherein first tag domain comprises a region for cluster

amplification.

9. The method of claim 7 or claim 8, wherein the first tag domain comprises a region for priming a sequencing reaction.
10. The method of any one of claims 1-9, comprising liberating the immobilized double-stranded nucleic acid fragments from the solid support.
11. The method of claim 10, wherein the liberating comprises cleavage of the CRISPR/Cas9 enzymes from the solid support.
12. The method of claim 11, wherein the liberating comprises performing PCR or other amplification process.
13. The method of claim 12, wherein the PCR comprises suppression PCR.
14. The method of claim 10, wherein the liberating comprises applying light or heat.
15. A composition comprising (a) a solid support having CRISPR/Cas9 complexes immobilized thereon, wherein the CRISPR/Cas9 complexes comprise a CRISPR/Cas9 enzyme bound to a biotinylated first polynucleotide comprising a 3' portion comprising a CRISPR/Cas9 end sequence and a 5' portion comprising a single-stranded guide RNA (sgRNA), and wherein the biotinylated first polynucleotide is bound to a biotin binding protein on the solid support; and (b) one or more reagents that reduce the nucleic acid binding specificity of the CRISPR/Cas9 enzymes, wherein the one or more reagents comprise betaine, dimethyl sulfoxide (DMSO), ethanol, ethylene glycol, dimethylacetamide, dimethylformamide, and/or sulphalane.
16. The composition of claim 15, wherein the biotin binding protein comprises avidin, streptavidin, neutravidin, an anti-biotin antibody, a biotin receptor, and/or a biotin-binding enzyme.
17. The composition of claim 16, wherein the biotin-binding enzyme comprises biotinidase or biotin holocarboxylase synthetase.
18. The composition of any one of claims 15-17, wherein the CRISPR/Cas9 complexes are present on the solid support at a density of at least 10^3, 10^4, 10^5, 10^6 complexes per mm^2.
19. The composition of any one of claims 15-18, wherein the solid support comprises microparticles, a patterned surface, or wells.
20. The composition of claim 19, wherein the microparticles are beads.