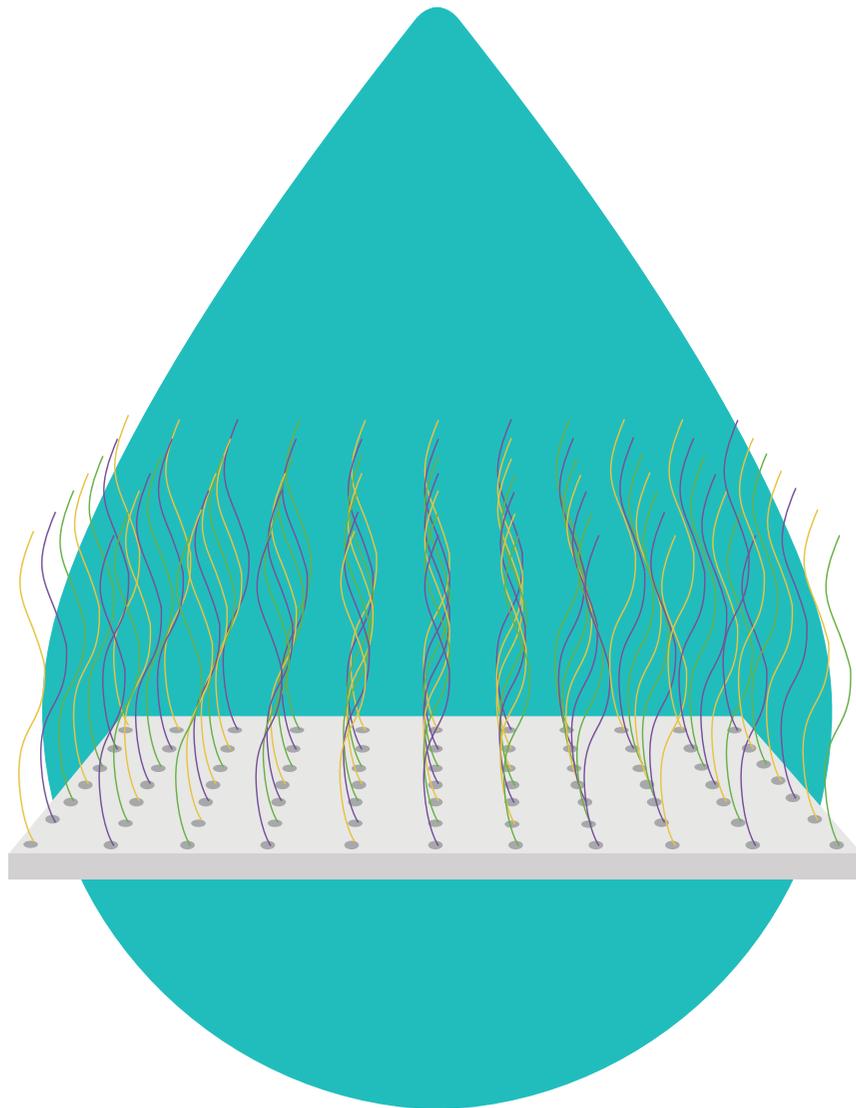


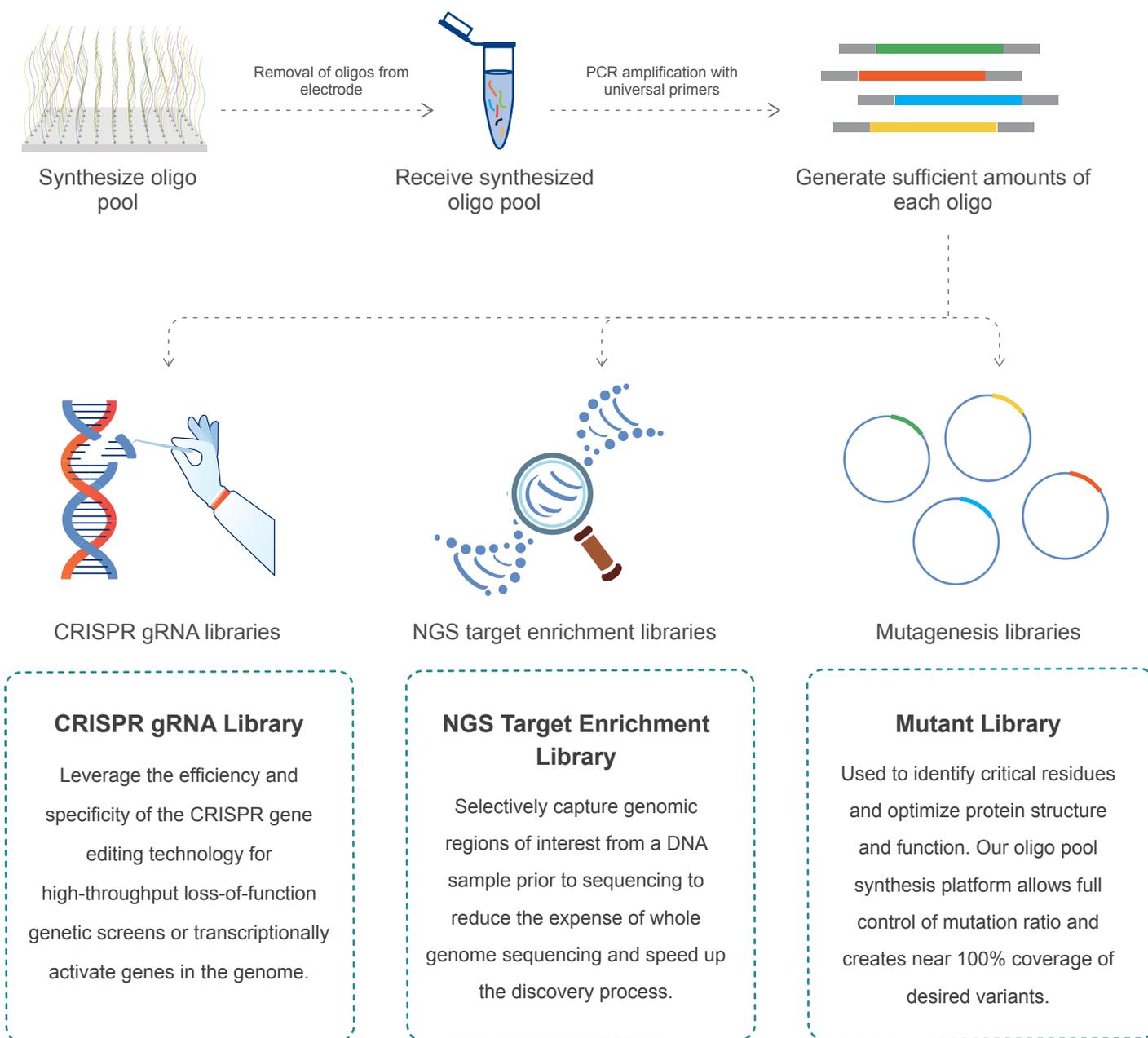
Precise Synthetic Oligo Pools

A perfect solution for cost-effective library construction and efficient high-throughput screening



What is an oligo pool and what are the applications?

An oligo pool is a mixture of thousands of short, synthetic oligonucleotides (oligos) that are synthesized simultaneously. Following synthesis, oligos are removed from the synthesis platform and combined in a single tube. This pool can be used in construction of a variety of library types, such as CRISPR gRNA, mutant, or NGS target enrichment library for subsequent high-throughput screening.



GenScript provides additional downstream services for oligo pools, such as cloning and plasmid preparation services, to help with your library construction.

Creation of libraries to screen potential targets can be expensive and time consuming. Moreover, inexperience in PCR and cloning can lead to poor representation of targets and low screening efficiency.

GenScript's Oligo Pool Synthesis Service provides the perfect solution for library construction in both cost and quality:

- ✓ Flexible synthesis capacity to generate any pool size
- ✓ Precise control of user-defined sequences produces high fidelity oligos
- ✓ High sequence uniformity and batch to batch consistency

What are the key features of an oligo pool?

LOW ERROR RATE

Creation of high sequence fidelity oligos

UNIFORMITY

Equal abundance of each oligo sequence minimizes screening burden

ACCURACY

Complete coverage of desired sequences and high percentage of correct sequences

CONSISTENCY

Minimal variations between pools ensures experimental repeatability

GenScript's oligo pools have unbeatable accuracy and uniformity with:

- >99% desired sequence coverage rate
- Low error rate, <0.5%
- Minimal batch to batch variation

How are oligo pools synthesized?

The traditional approach for synthesizing oligos is to use column-based synthesis technology, however, to synthesize a large amount of oligos using this approach would be very costly and time-consuming. The more advanced approach, however, is using *in situ* array technology, which allows for the simultaneous synthesis of thousands of user-defined oligos at a fraction of the cost and time compared to synthesizing each oligo individually. Currently, there are two main *in situ* array methodologies available: inkjet printing and electrochemical synthesis.

	Inkjet Printing	Electrochemical Synthesis
Technology	<ul style="list-style-type: none">◦ Multiple print heads, each containing one base nucleotide in liquid, move over a silicon-based chip◦ A droplet containing appropriate nucleotide for the sequence is released into each well to build the oligo	<ul style="list-style-type: none">◦ Multiple oligos are synthesized on individual platinum electrodes on a semi-conductor chip◦ Electronic activation controls chemical reaction at each electrode to build oligo as designed
Pros/Cons	<ul style="list-style-type: none">◦ Fast, high-throughput synthesis of oligos reduces cost of synthesis◦ Uses very low amounts of inexpensive, off-the-shelf reagents, keeping cost and waste to a minimum◦ Risk of cross-reactivity between wells due to liquid backsplash upon nucleotide addition	<ul style="list-style-type: none">◦ Leverages the semi-conductor industry to achieve the most reproducible and fastest high-throughput synthesis possible of high fidelity oligos

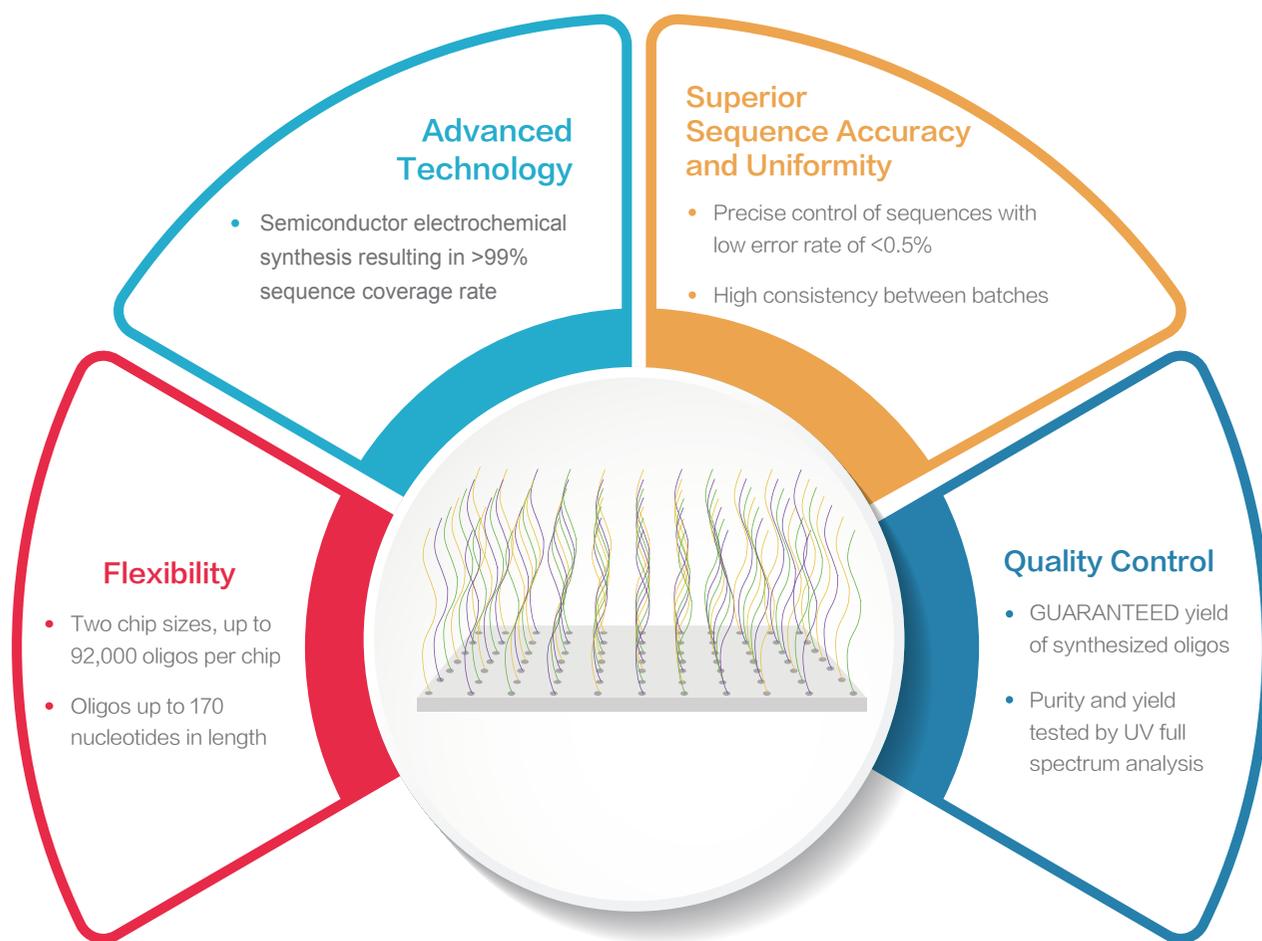
How are GenScript's oligo pools synthesized?

Using a semiconductor-based electrochemical oligo synthesis platform developed by CustomArray, Inc, thousands of user-defined sequences are precisely synthesized simultaneously on a coverslip-sized chip.

- ✓ Electronic control of the synthesis process ensures top-notch sequence accuracy
- ✓ Low risk of cross-reactivity between electrodes during nucleotide addition due to electronic control of synthesis process
- ✓ Synthesis in a closed environment minimizes exposure to outside elements providing minimal variations between pools

Why choose GenScript's Oligo Pool Synthesis Service?

In 2017, GenScript acquired Custom Array, Inc, the world's largest oligo pool synthesis provider, and have fully integrated their technology and resources in order to provide customers with customized oligo pool synthesis services and downstream services.

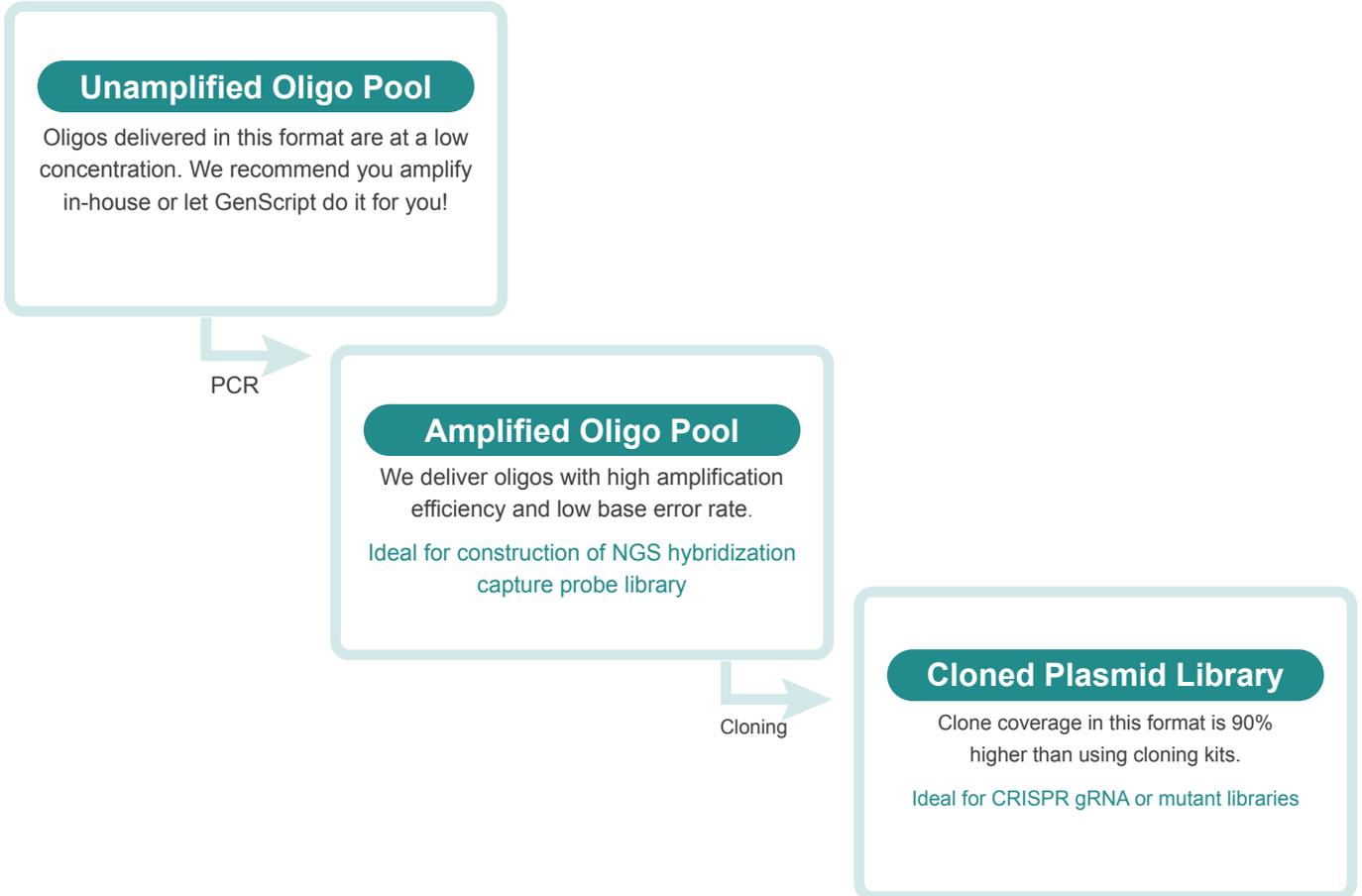


With unbeatable accuracy and uniformity, GenScript's oligo pools provide faster identification of your hits with minimal screening

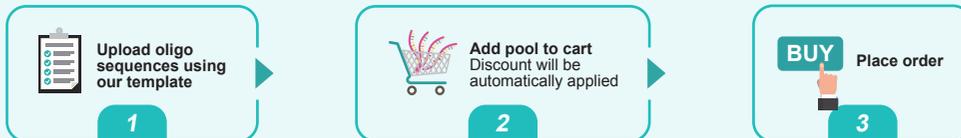
Catalog Number	Chip Capacity	Oligo Length	Turnaround Time	Pricing
SC1966-12	12,472 oligos	10-170 nt	As fast as 5 business days	Starting at \$1,600
SC1966-92	92,918 oligos		1-2 weeks	Starting at \$4,000

Oligo Pool Value-Added Services

GenScript offers a number of downstream services to complement your oligo pool and provide a one-stop solution for your research needs. We offer three types of delivery formats:



It only takes 3 simple steps to order thousands of oligos at one time!



Visit www.genscript.com/quick_order/oligo_pool to upload your sequences.

For more information, please contact us at:

Email: oligo@genscript.com

Phone: (877) 436-7274 (Toll-Free); (732) 885-9188

Visit our website at www.genscript.com/precise-synthetic-oligo-pools.html