



COMBIMATRIX

Discover the possibilities

Customizable DNA MicroArrays

CombiMatrix Corporation

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President & CEO

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This presentation contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based upon our current expectations and speak only as of the date hereof. Our actual results may differ materially and adversely from those expressed in any forward-looking statements as a result of various factors and uncertainties, including the recent economic slowdown affecting technology companies, our ability to successfully develop products, rapid technological change in our markets, changes in demand for our future products, legislative, regulatory and competitive developments and general economic conditions. Acacia Research: CombiMatrix Annual Report on Form 10-K, recent and forthcoming Quarterly Reports on Form 10-Q, recent Current Reports on Forms 8-K and 8-K/A, and other SEC filings discuss some of the important risk factors that may affect our business, results of operations and financial condition. We undertake no obligation to revise or update publicly any forward-looking statements for any reason.

Genes and Disease

Cancer

Heart Disease

Alzheimer's

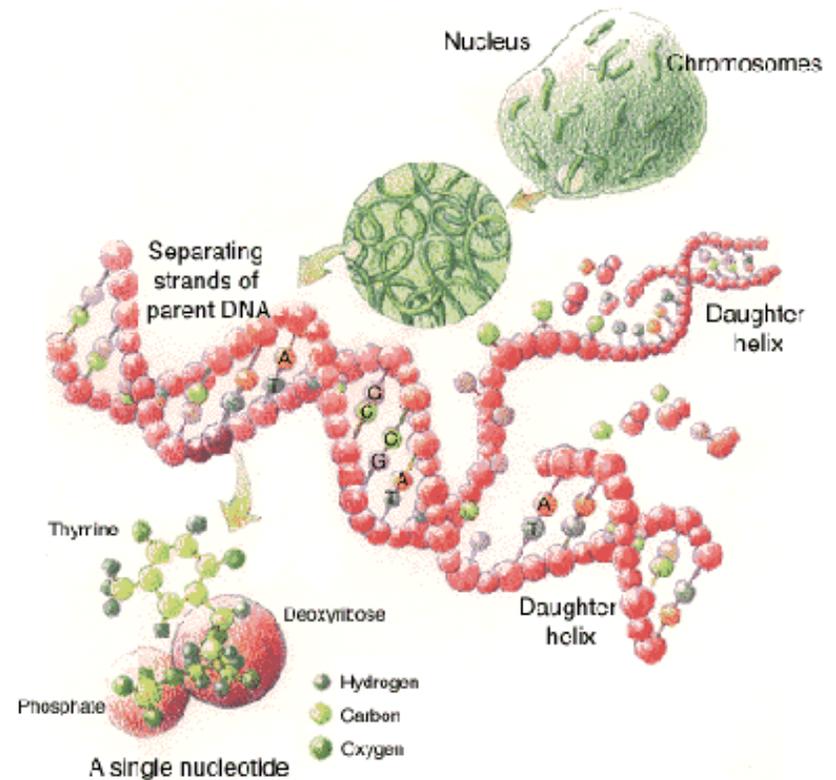
Parkinson's

AIDS

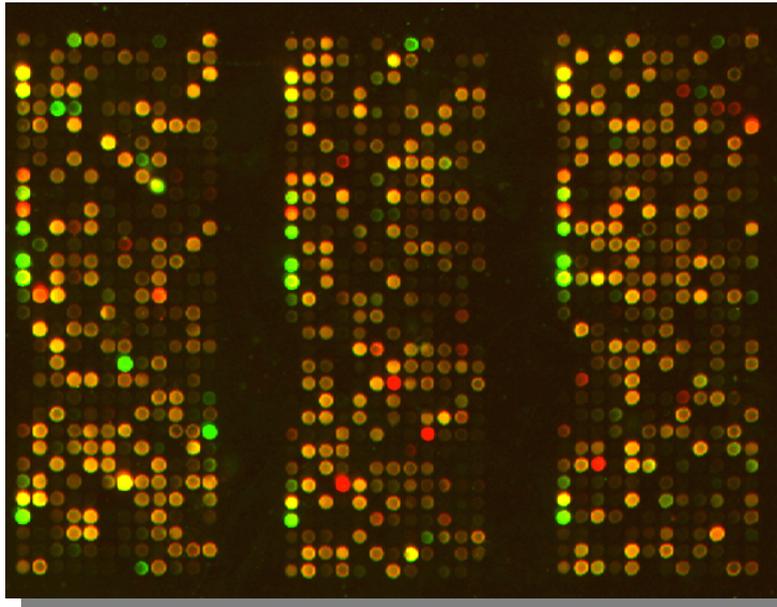
Autoimmunity

Obesity

Diabetes

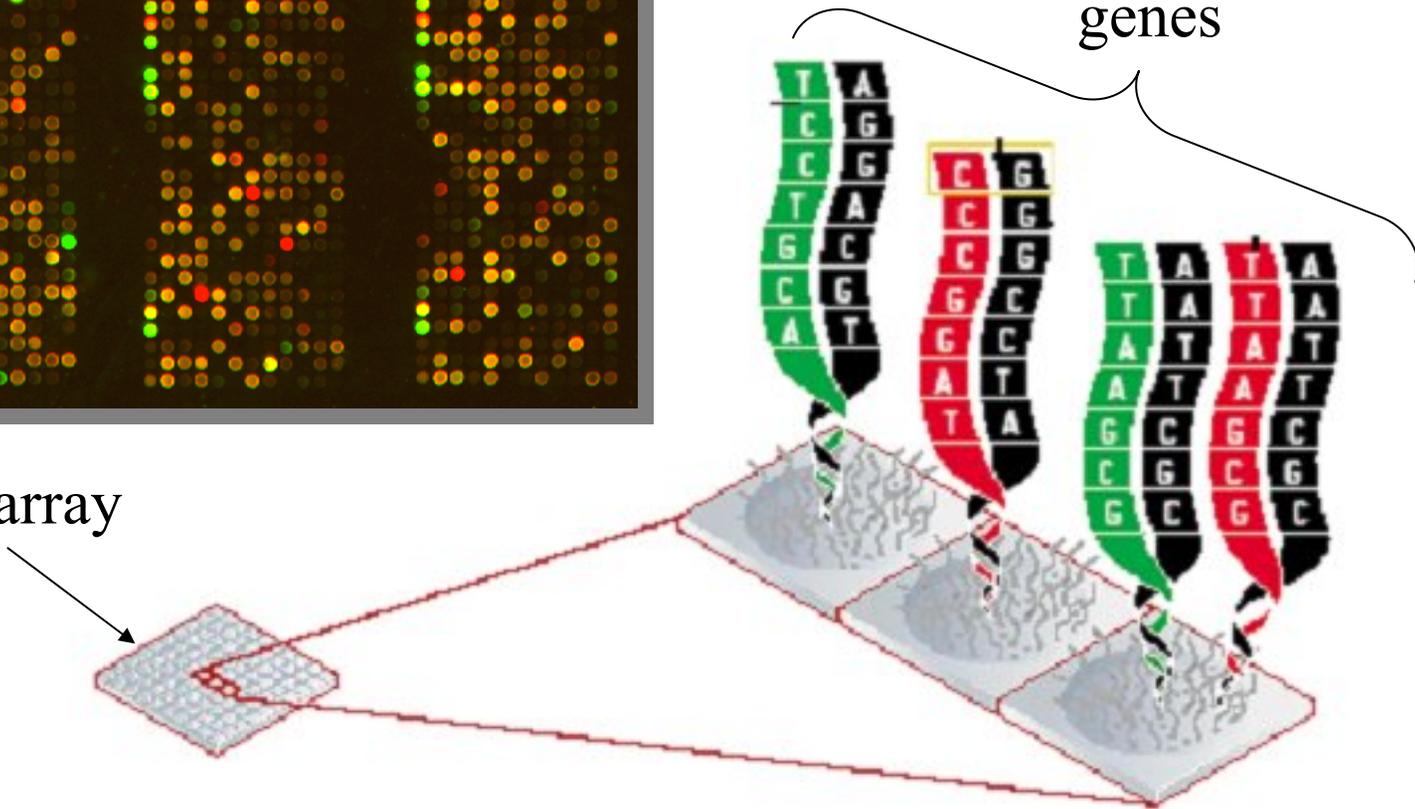


Microarrays



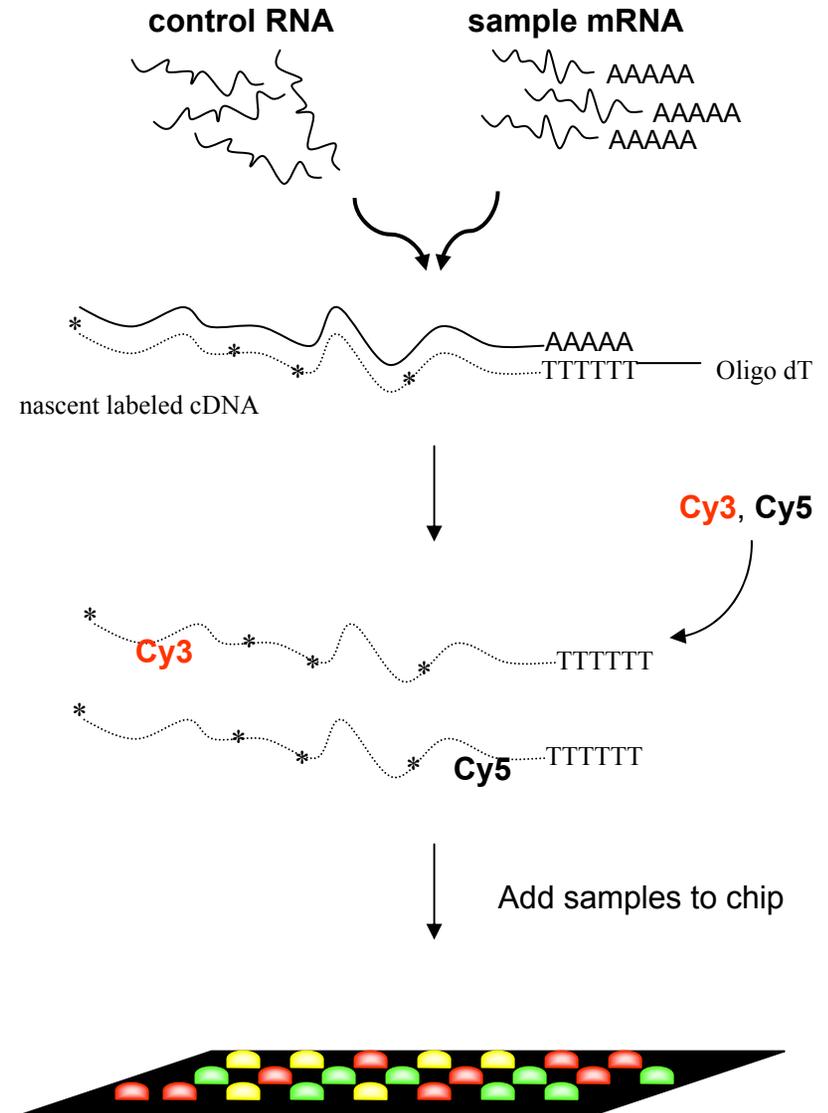
Microarray

Detect expression levels for many genes

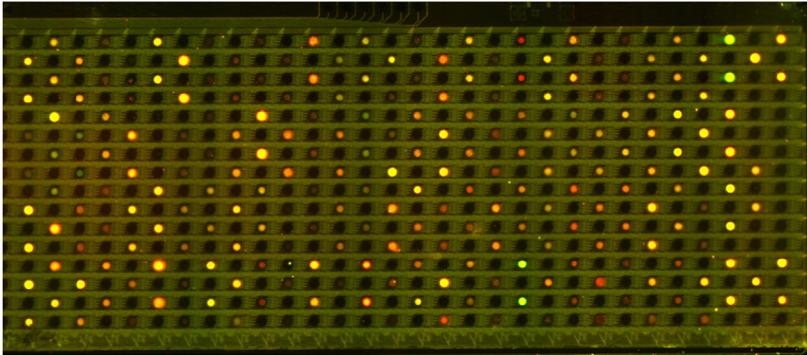


Sample Preparation Protocol

1. Add RNA controls to mRNA sample
2. Reverse transcribe RNA and incorporate Cy3 or Cy5 labels
3. Clean up cDNAs pool Cy3 and Cy5 labeled samples
4. Clean up, hybridize, wash and image



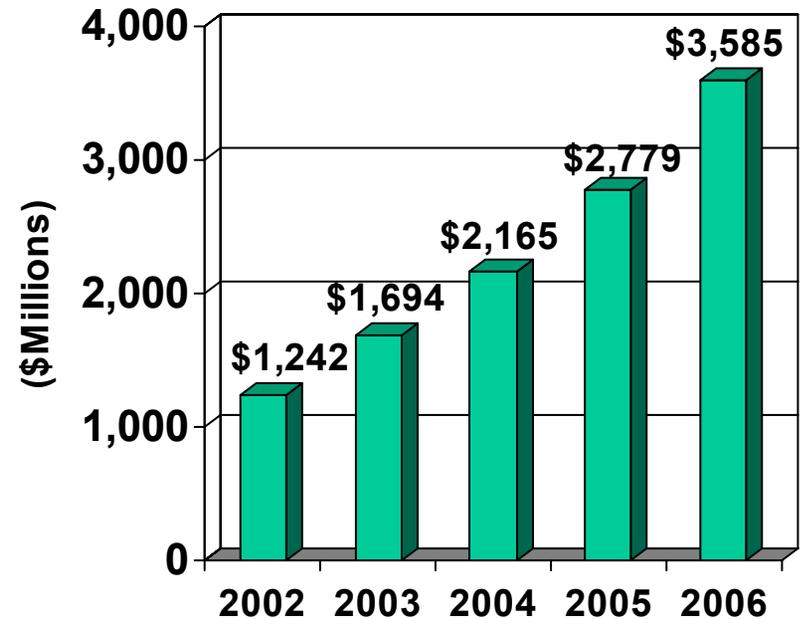
DNA Microarrays



Normal Lymph Node – Cy3
Lymphoblastic Leukemia – Cy5

- Any Genome (1100 sequenced)
- Multiple Genomes on One Array
- Any Gene
- Any Probe/Sequence
- Any Oligo Length
- Multiple Oligo Lengths on One Array

DNA MICROARRAY MARKET, 2002-2006



- Market Growth of 32% (CAGR)
- High Demand for Customized Arrays
- New Opportunities in Genetic Testing

*Note: 2001 Frontline Research for Overall
DNA Microarray Market Size and Growth

**Fabricating DNA
Microarrays through
Nanotechnology**

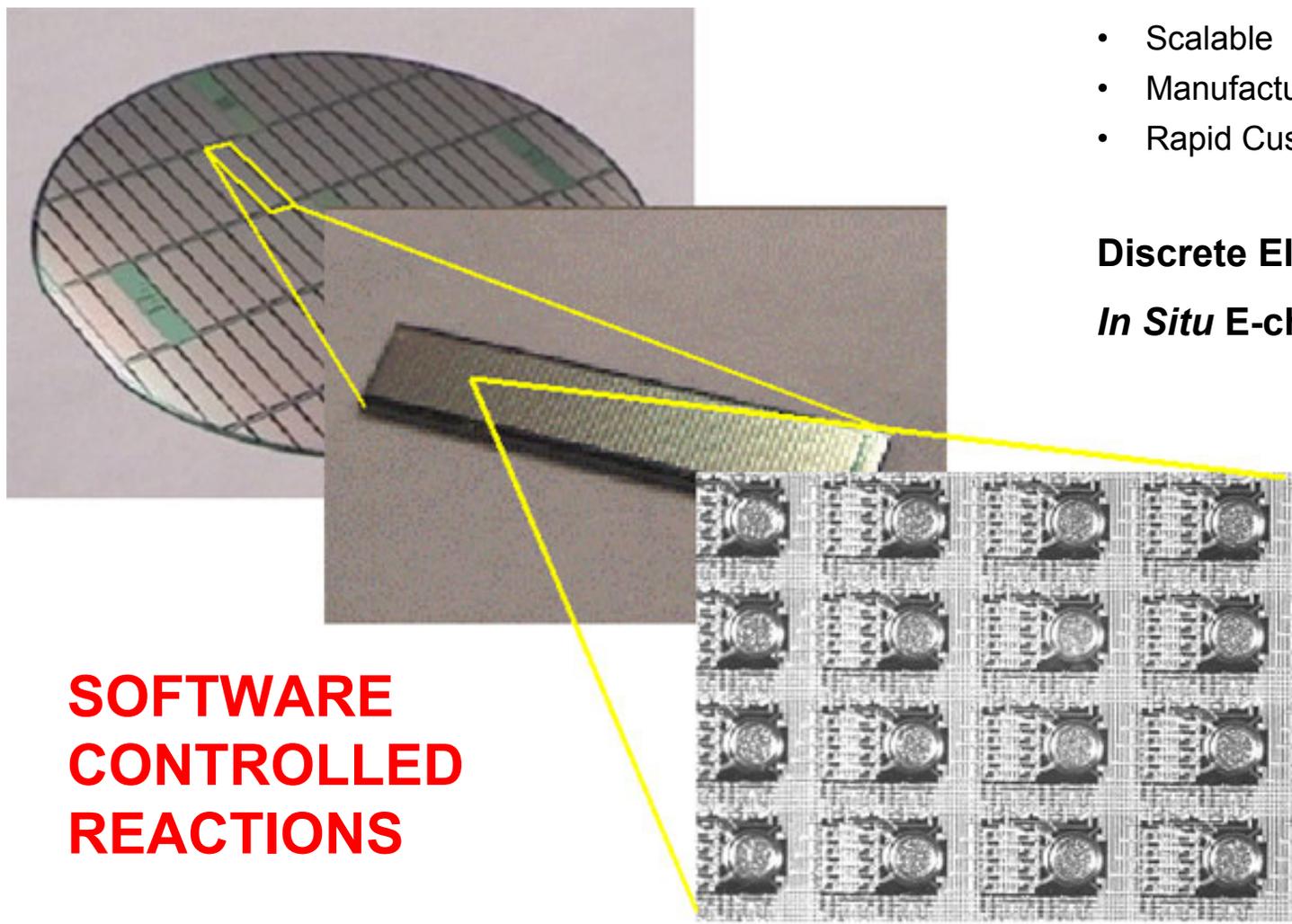
Virtual Flask Technology

Active Semiconductor

- Scalable
- Manufacturing Costs
- Rapid Customization

Discrete Electrodes

In Situ E-chem Synthesis



**SOFTWARE
CONTROLLED
REACTIONS**

1000 /cm²
12,000 /cm²
1.8 MM /cm²

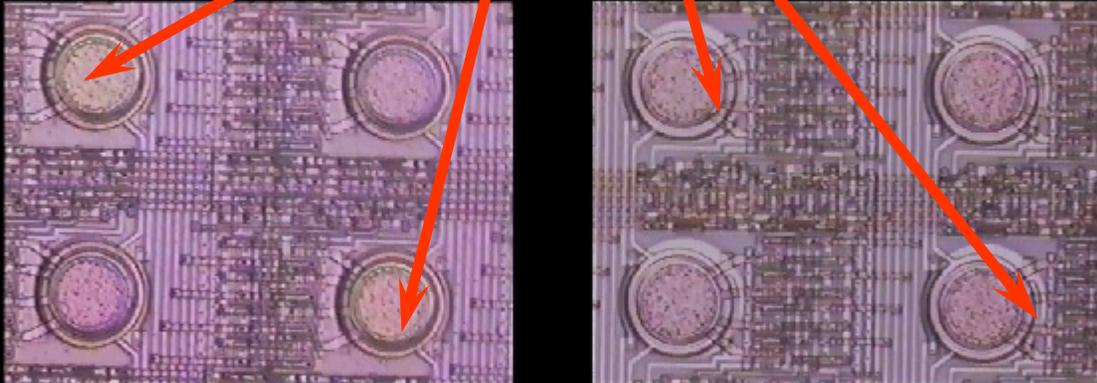
Virtual Flask Technology

Dye = Acid pH

Dye = Neutral pH

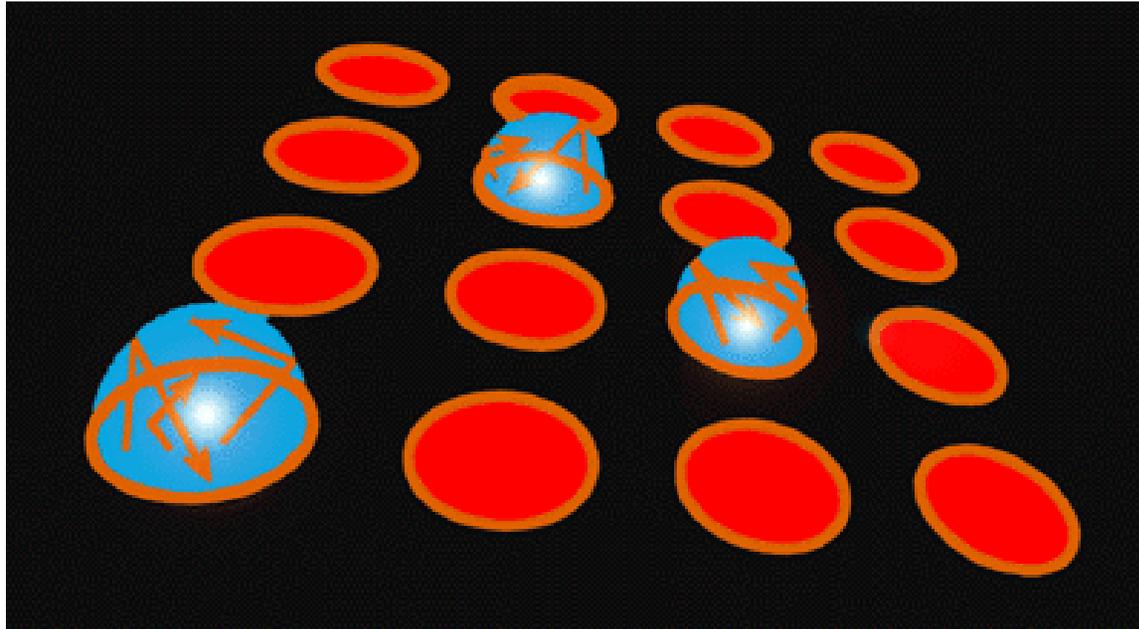
**Electrochemically
Generated Acid**

Virtual Flasks **Unconfined**



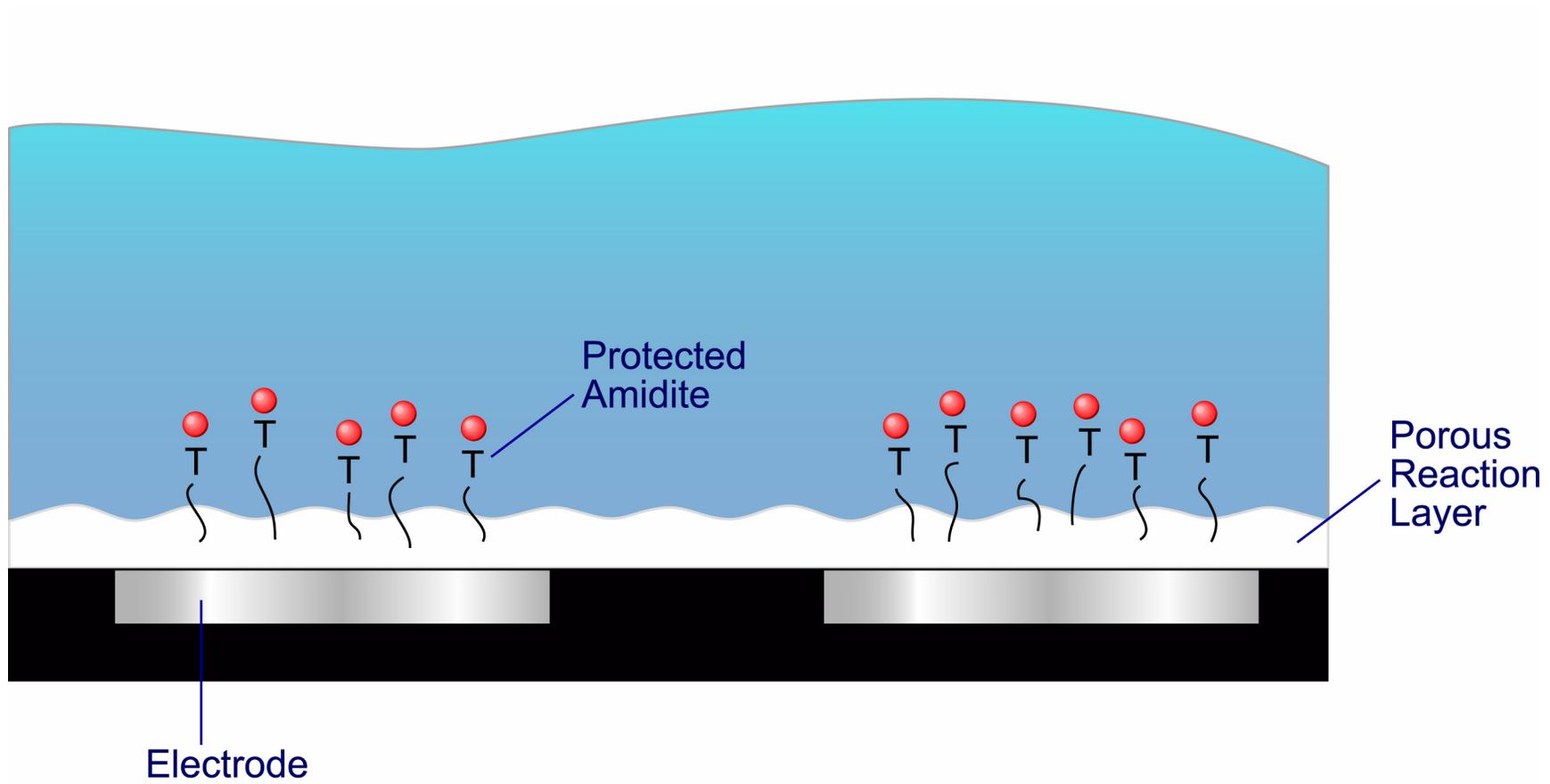
- **Porous Reaction Layer on Chips**
- **Conditions Identical on Both Chips**

‘Virtual Flask’ Technology

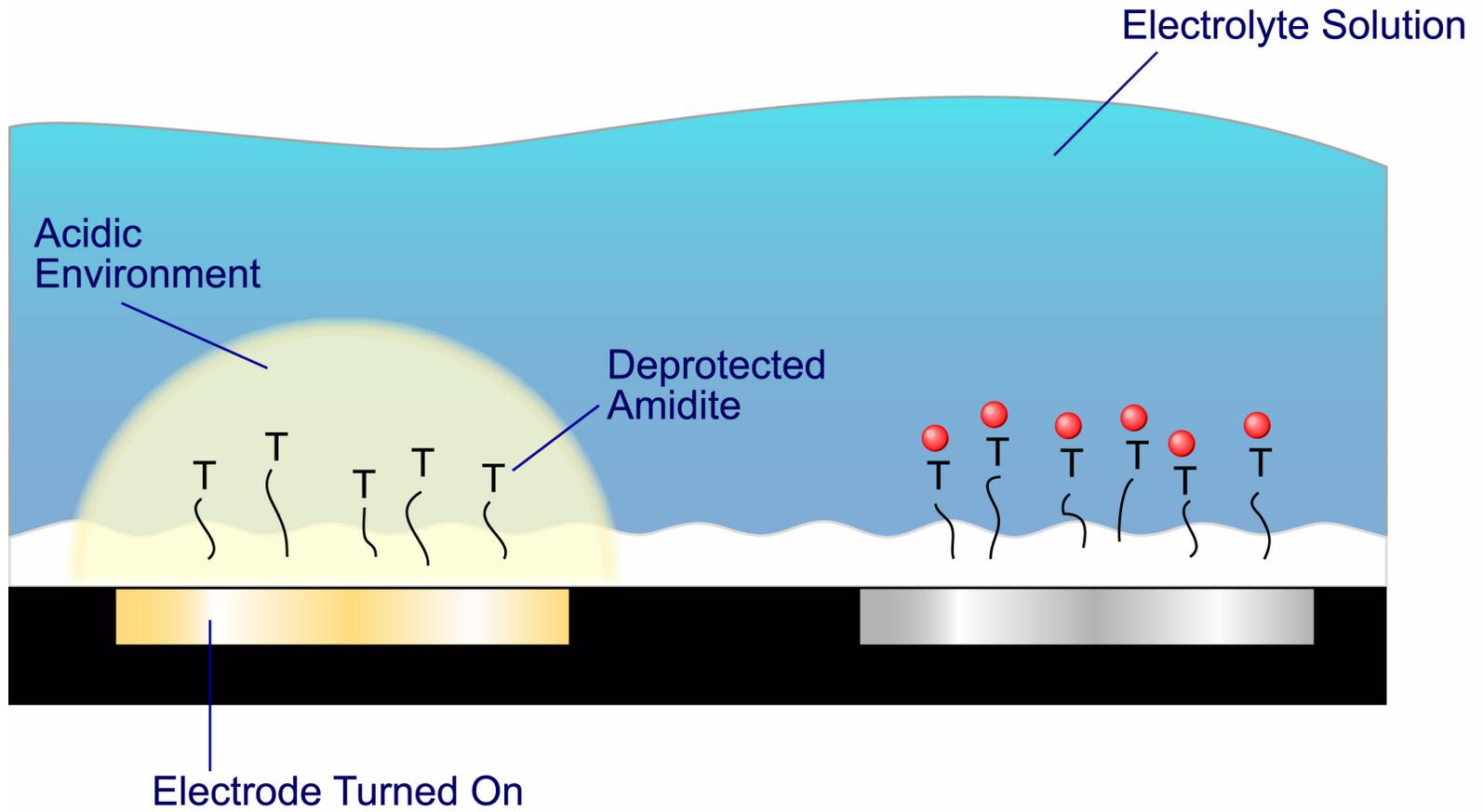


- Reagents are generated only at the “ON” electrodes only
- Special reaction conditions confine the reagents over the electrodes
- **Volume of each “Virtual Flask” reactor is 0.4 nanoliters**

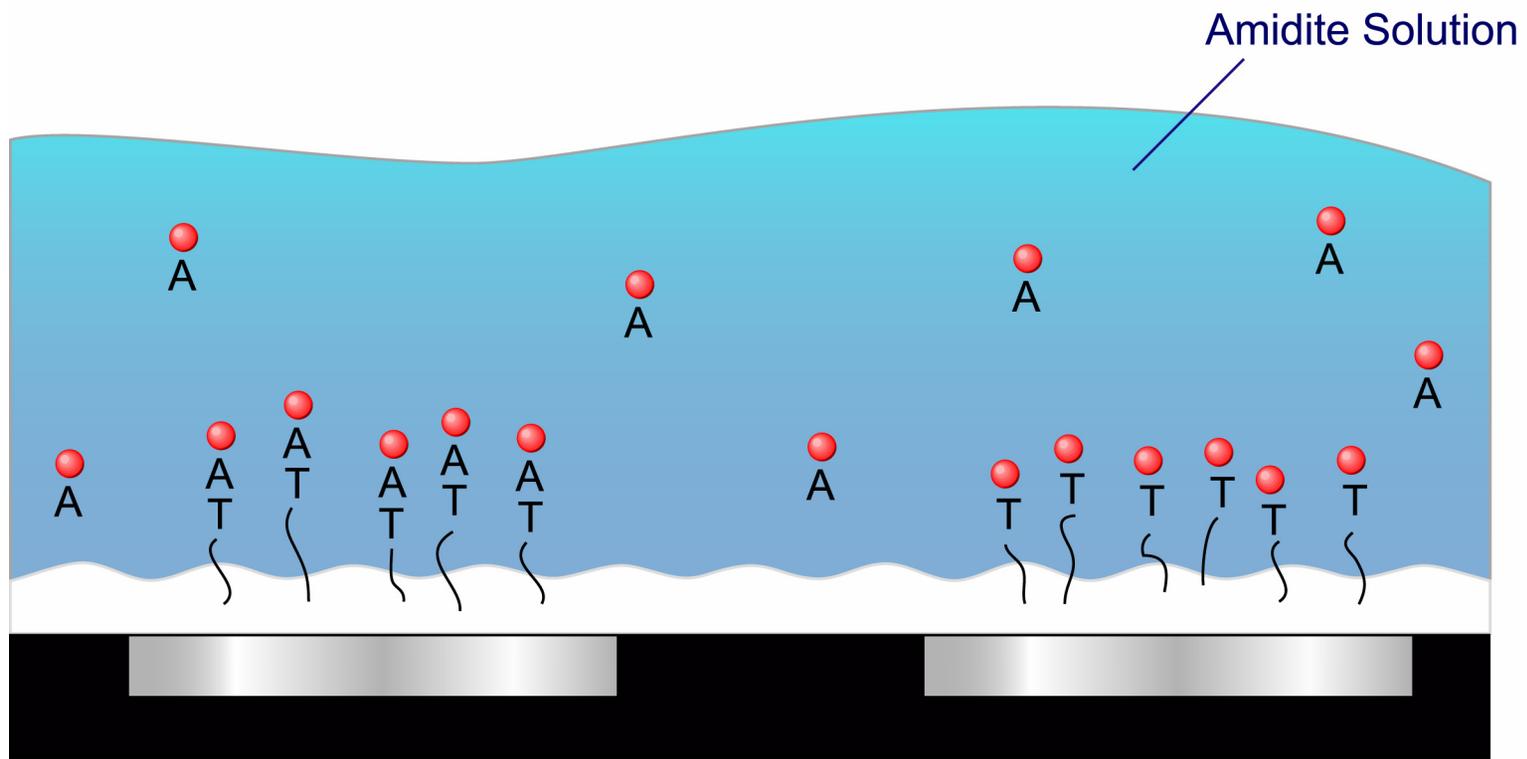
START



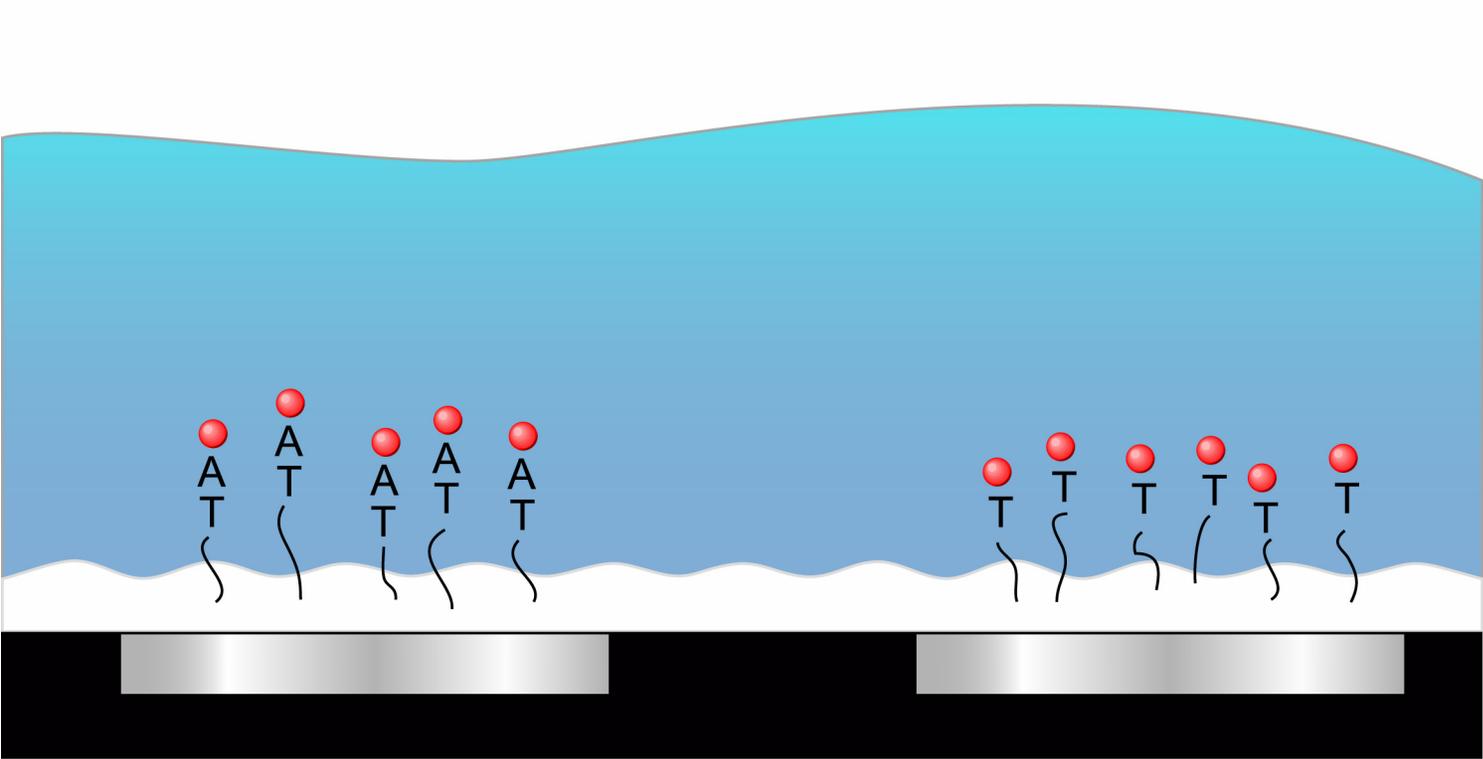
DEPROTECT



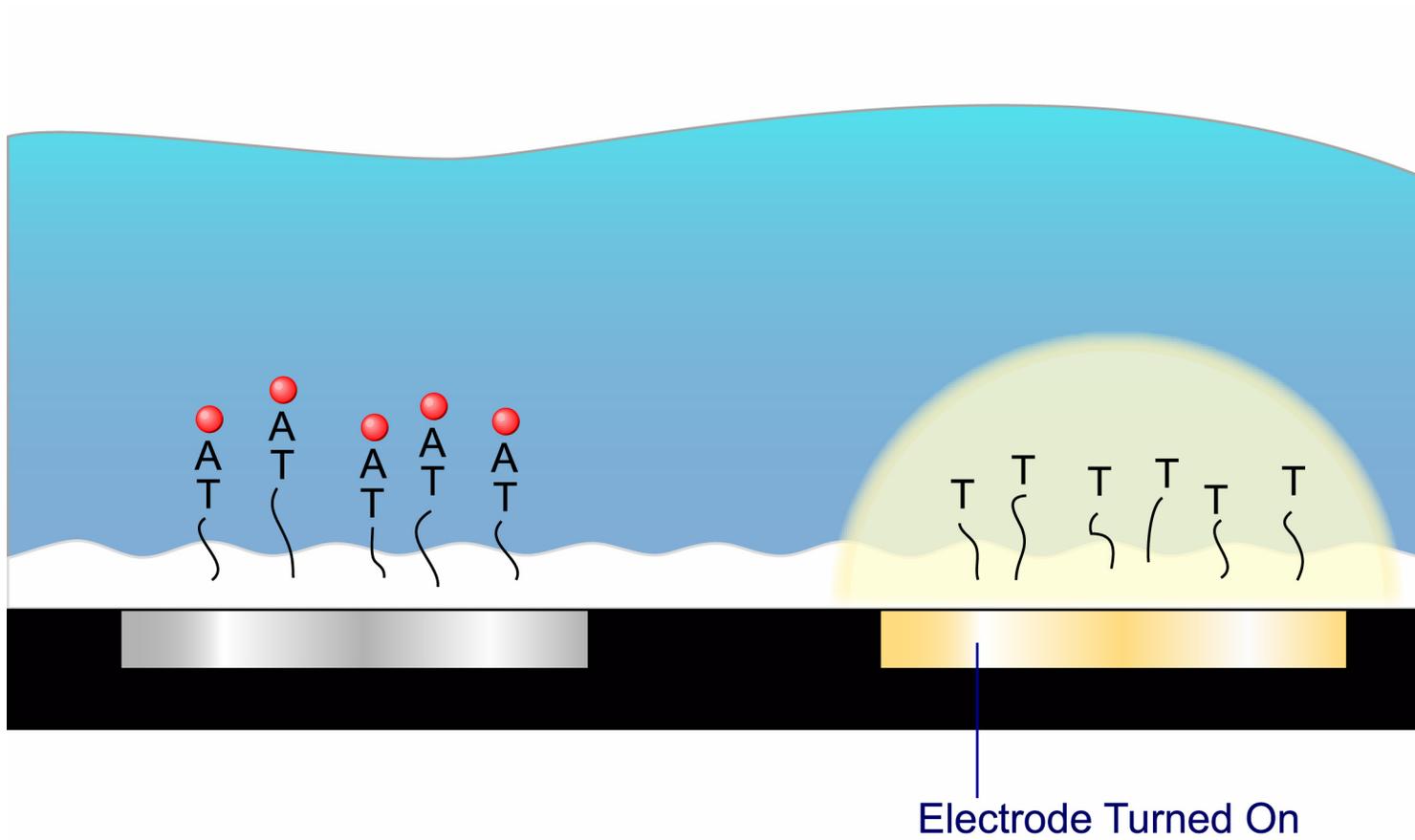
COUPLE



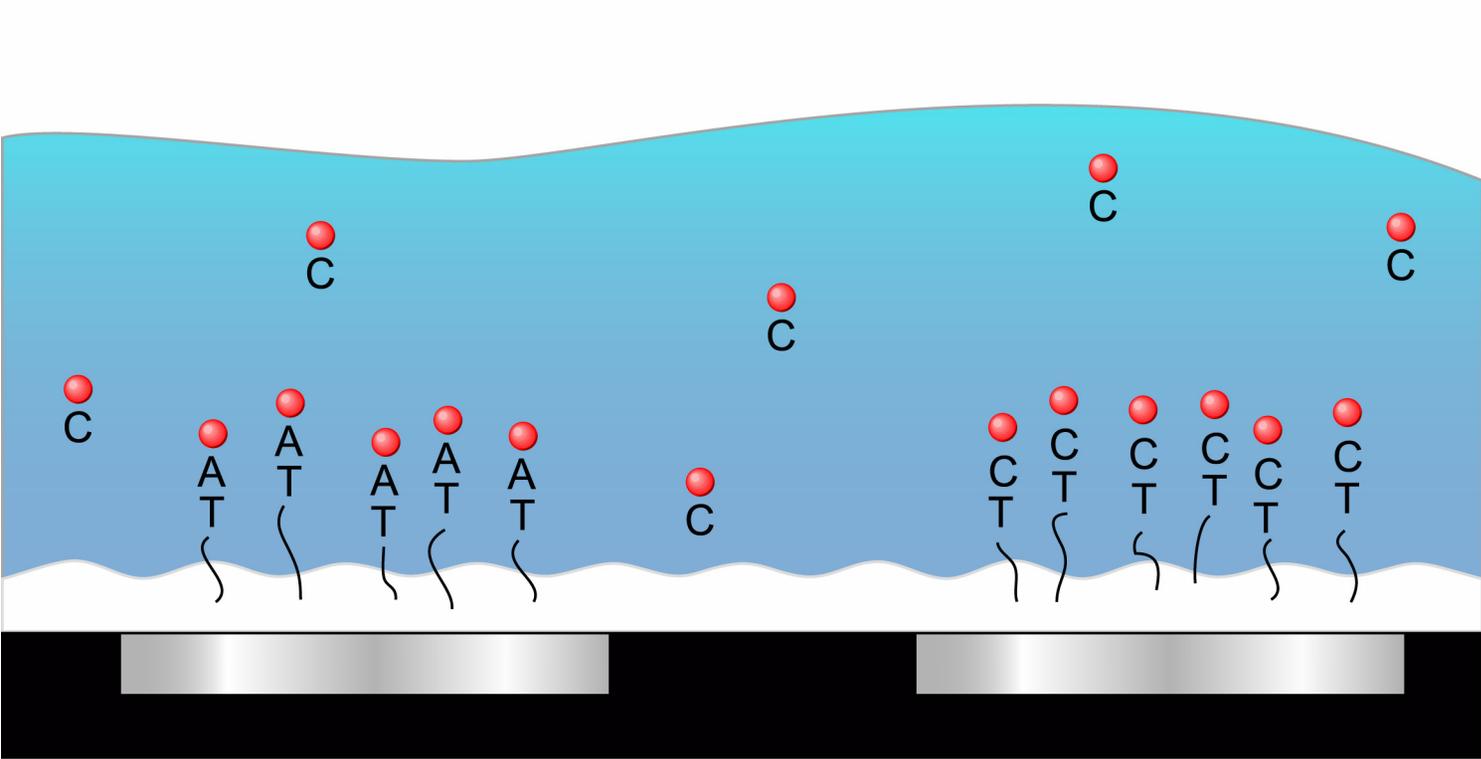
WASH



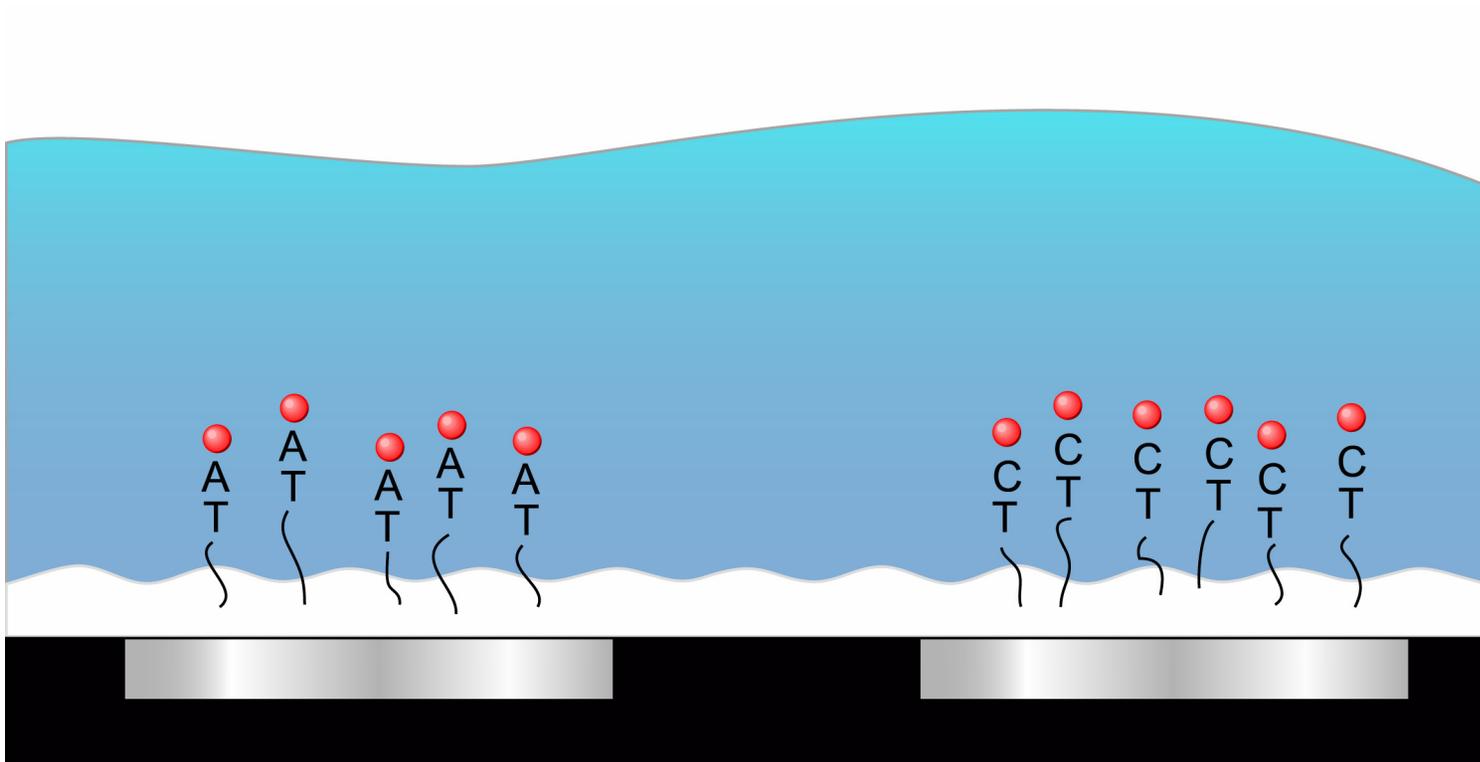
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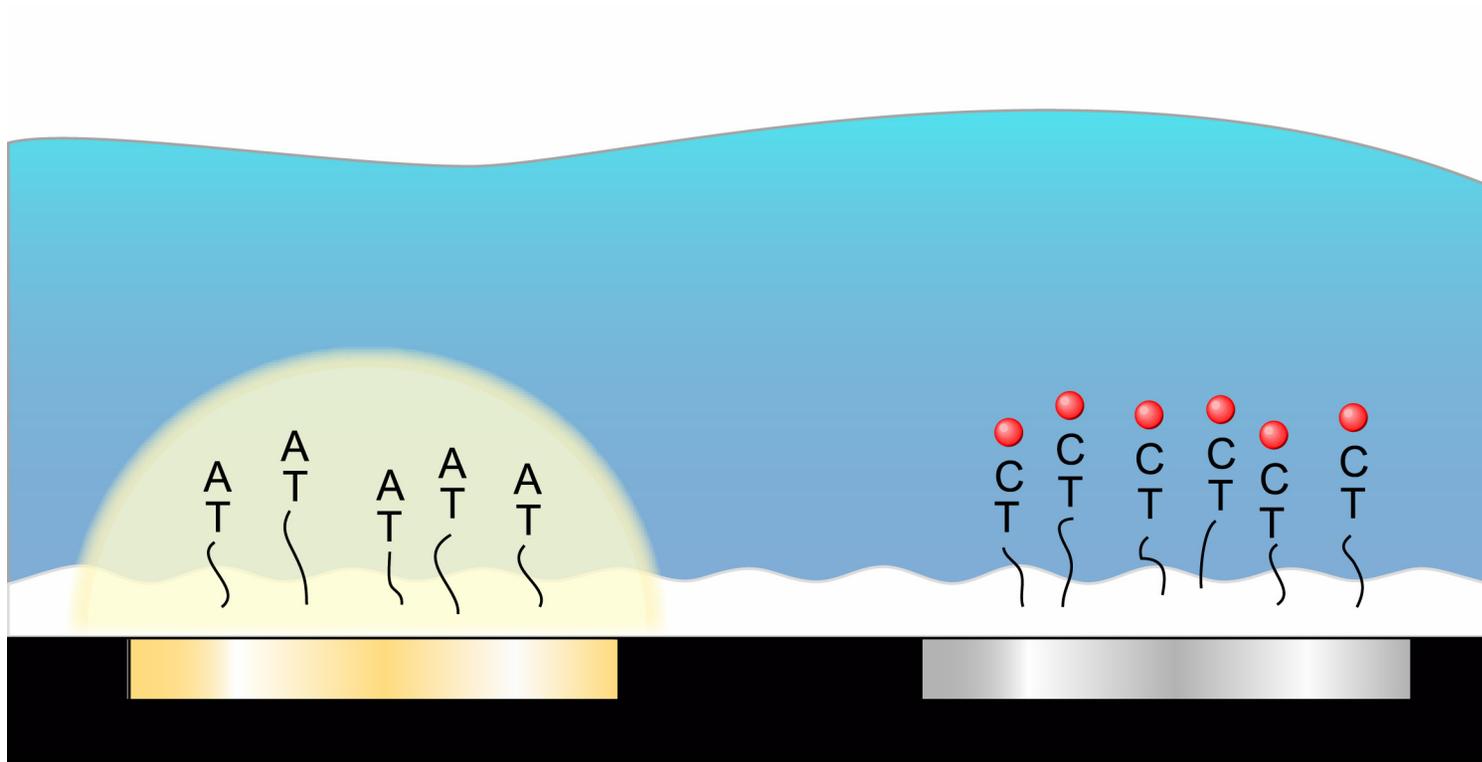
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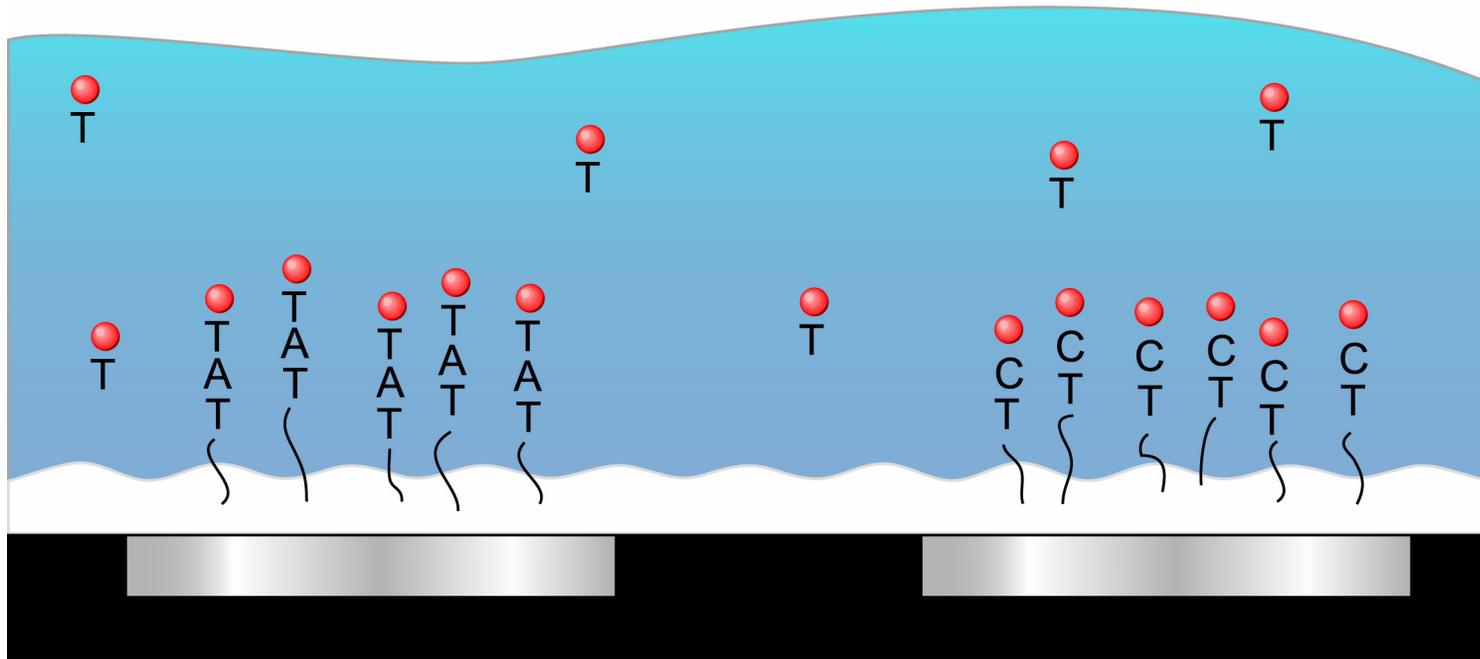
WASH



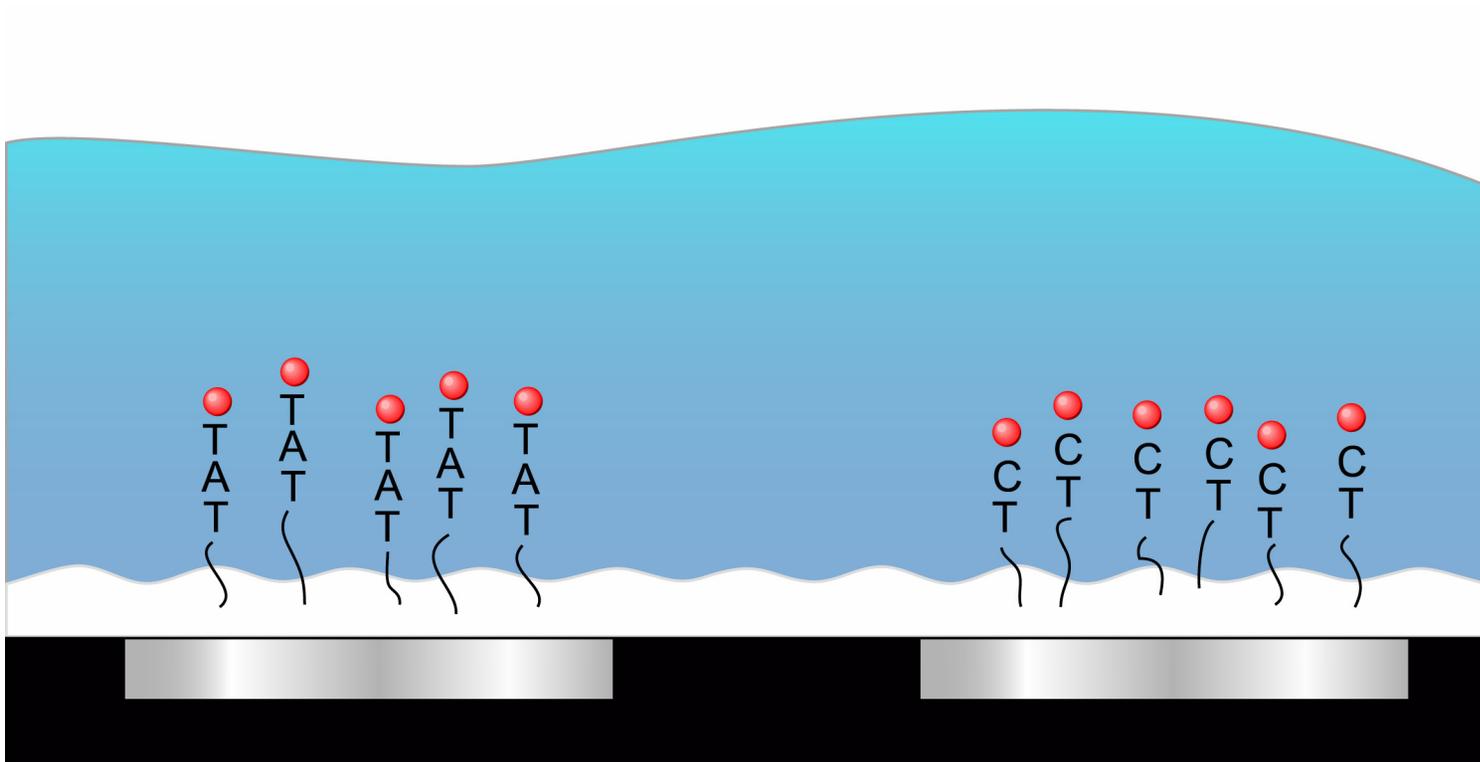
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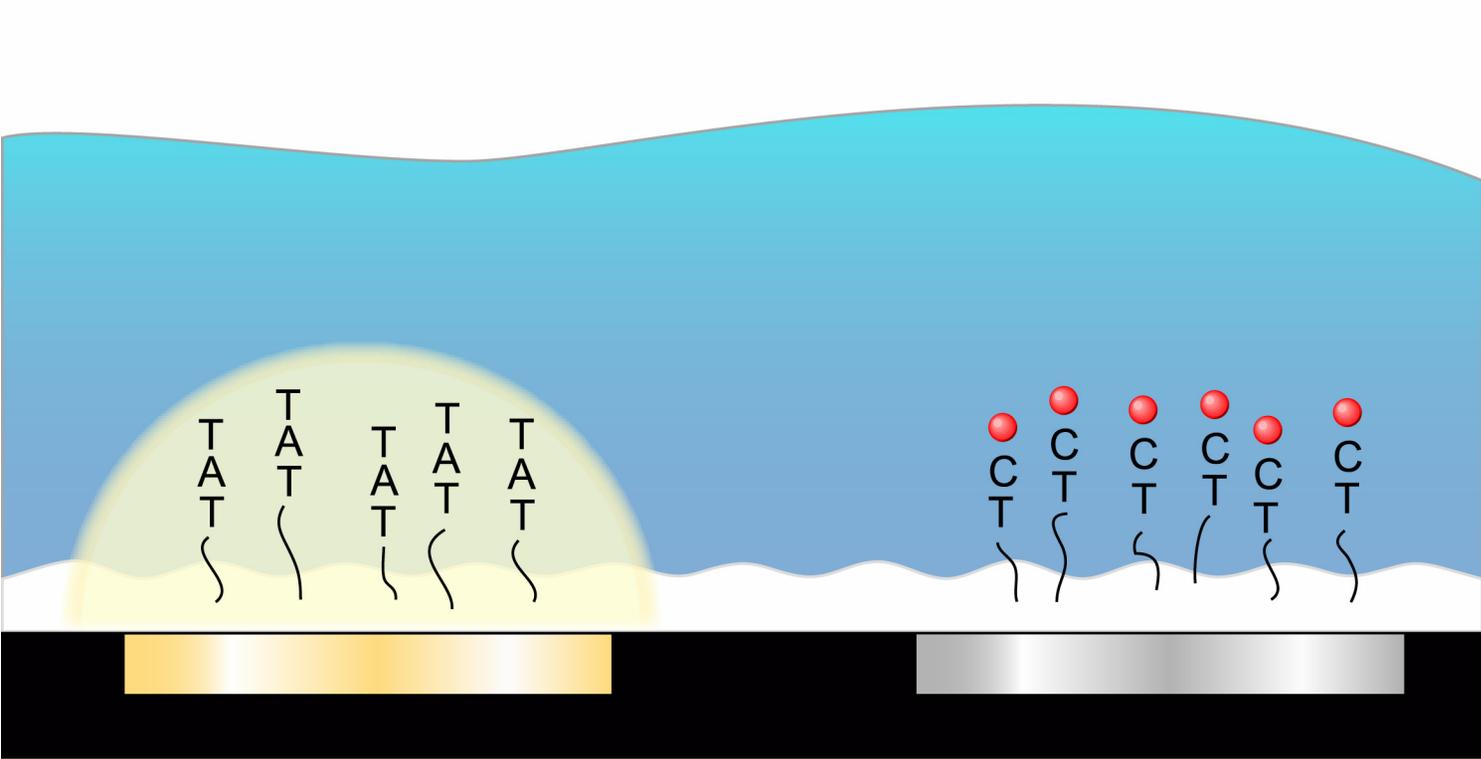
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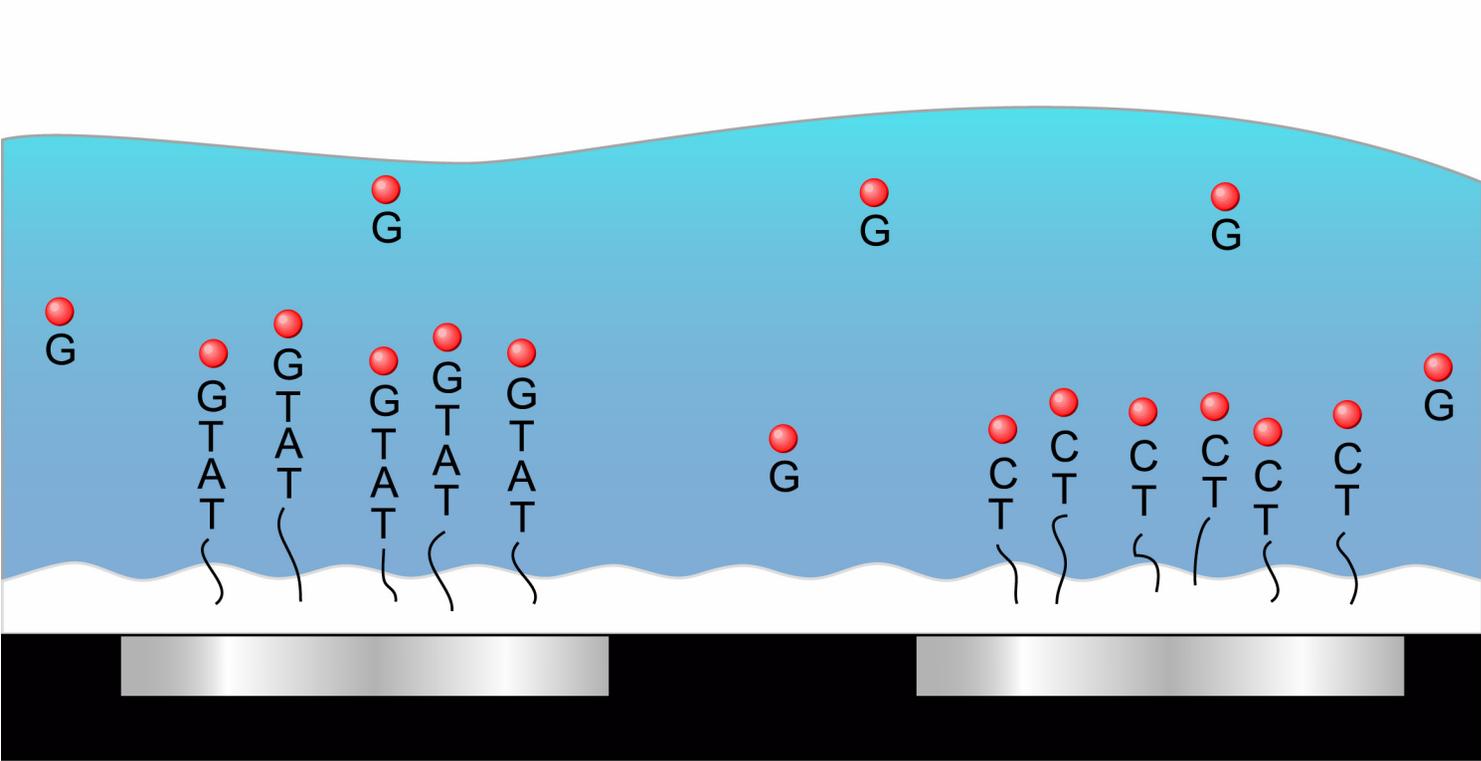
WASH



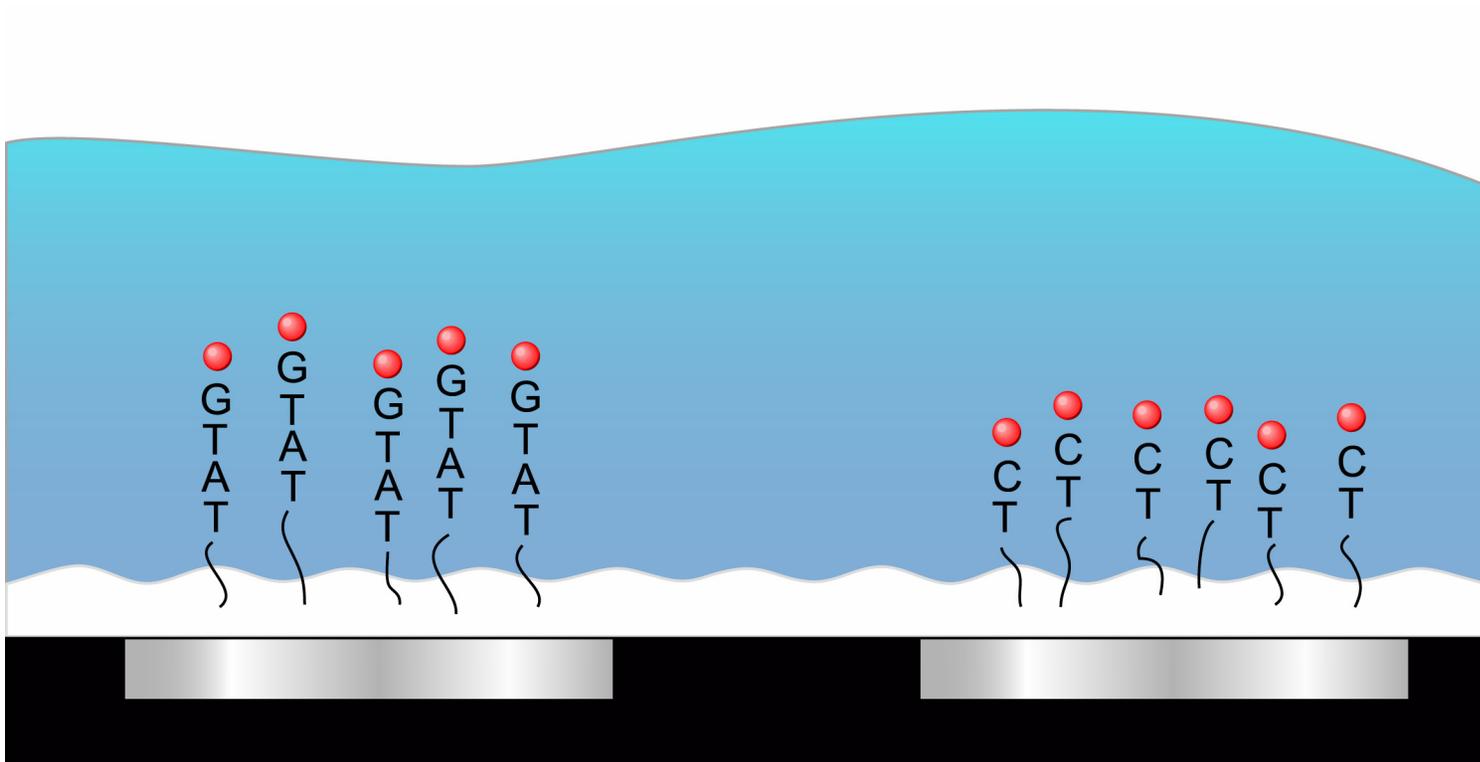
DEPROTECT



COUPLE



WASH



Nanotechnology

- **TOP DOWN APPROACH**

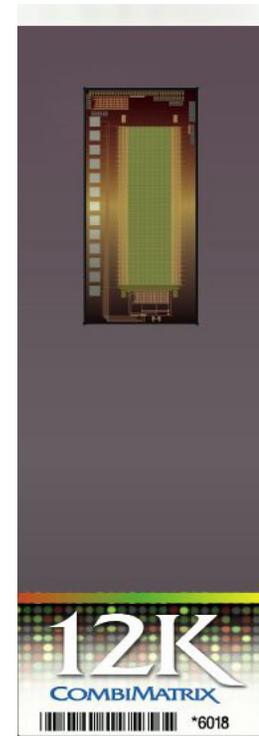
- We build semiconductor devices with features going from microns to nanometers
- Feature densities include
 - 1000 sites per cm^2
 - 12,000 sites per cm^2
 - 1.8 million sites per cm^2
 - Working in 1 Billion Sites per cm^2

- **BOTTOM UP APPROACH**

- We assemble, in parallel, thousands of different DNA molecules one base at a time, in reactors with volumes of tenths of nanometers

MicroArray Formats: Macro-Nano Interface

MatrixArray™



CustomArray™

MatrixArray™ Suite

Arrays



Hybridizer-Reader

Reagents

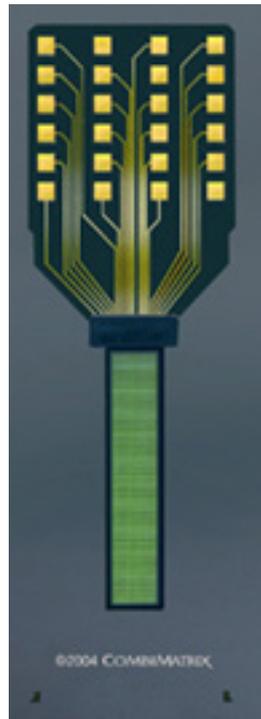


matrixArray (Default)

Final Name	Gene Name	Cluster	EC number	Functional Categories	Description
vh062w	GDE3	2x0	1.4.1.2	01.01.10; 01.02.01; 03.01	NADP-oxalacetate dehydrogenase
vh131w	LYS21	2x0	4.1.3.21	01.01.01; 01.05.01; 30.10	homocitrate synthase
vh173c	KEM1	2x0		01.05.16; 03.10; 03.20; 04.01.04; 30.03	exonucleosomal nuclease
vh030w	ECM29	2x0		02.01	involved in cell wall biogenesis and architecture
vh047c	AAAP1	2x0	3.4.11-	01.05.04; 02.19	alanine/arginine aminopeptidase
vh173w	VTH1	2x0		06.04	strong similarity to Prep1p
vh111c		2x0		99	questionable ORF
vh084c		2x0		99	weak similarity to S-pombe hypothetical protein SPAC9F6
vh210c	ODC25	2x0		01.03.04; 01.03.13; 01.03.04; 13.01; 03.13; 03.22; 10.01.15.05; 30.02	GDP/GTP exchange factor for Ras1p and Ras2p

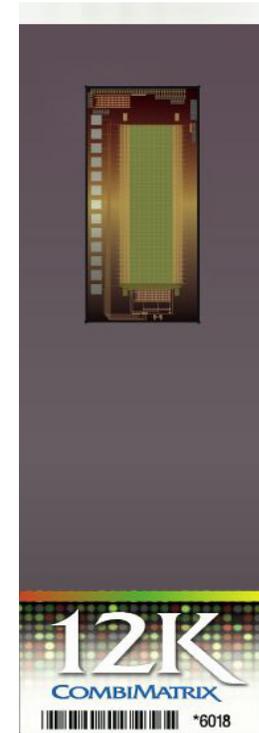
Software

CustomArray™ Product Formats



CustomArray™ 902

Commercial Launch – March 2004



CustomArray™ 12K

Commercial Launch – July 2004

Catalog Arrays

- Human Metabolism Array- Launched/July
- Human Toxicology Array- Launched/July
- Oncology- 67 Common Genes- August
 - Lung
 - Breast
 - Colon
- CNS- Central Nervous System- Q4
- Cardiovascular-Q4
- Metabolic Diseases-Q4-'04/Q1-05
- Other Catalog Arrays

- **Future-'05- Whole Genome Catalog/customizable Array**

- **Probes Specific To Application**
- **Updated as New Data Available**
- **Customized with additional customer requests**

Multiple, High Growth Markets

