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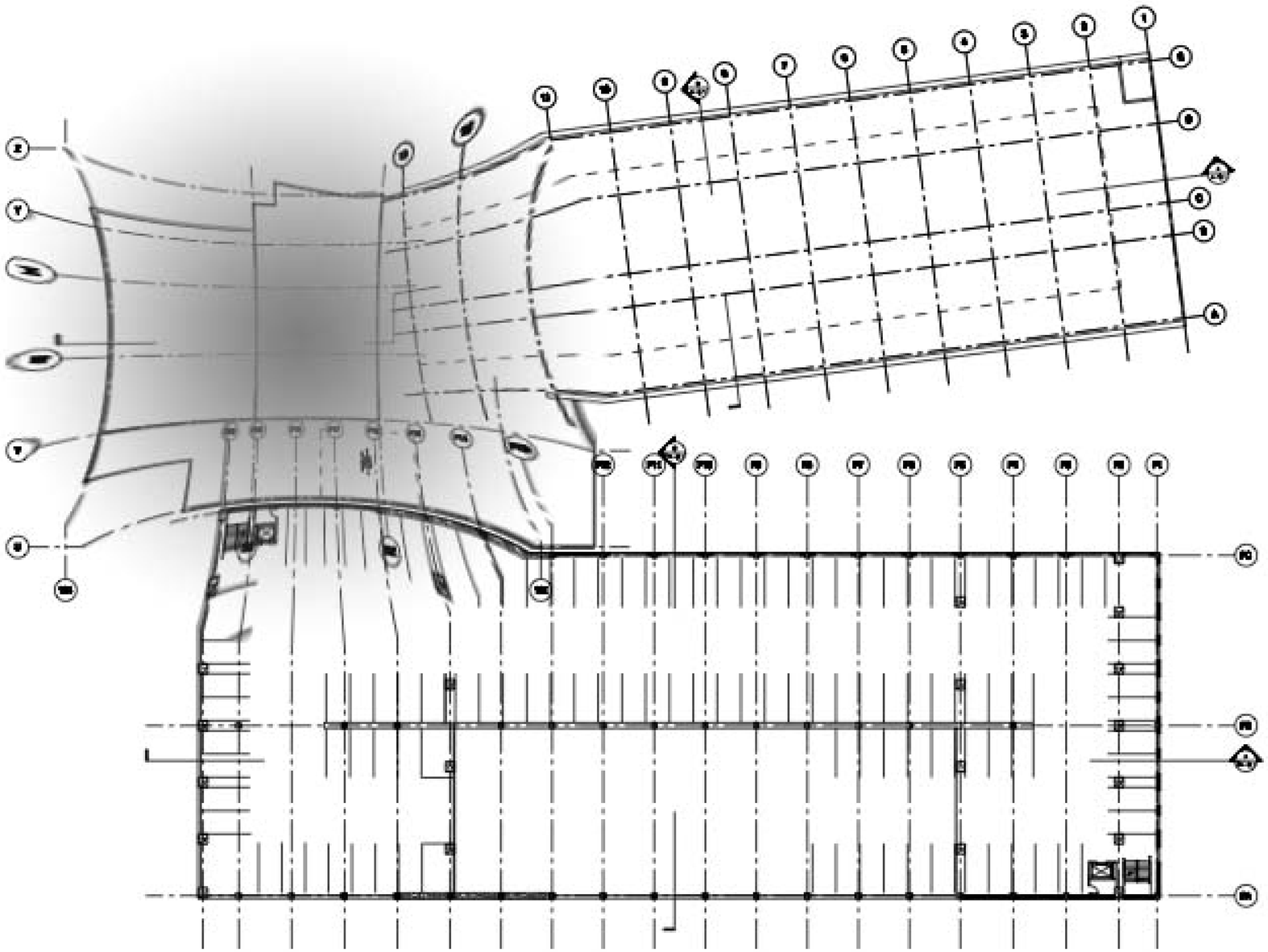

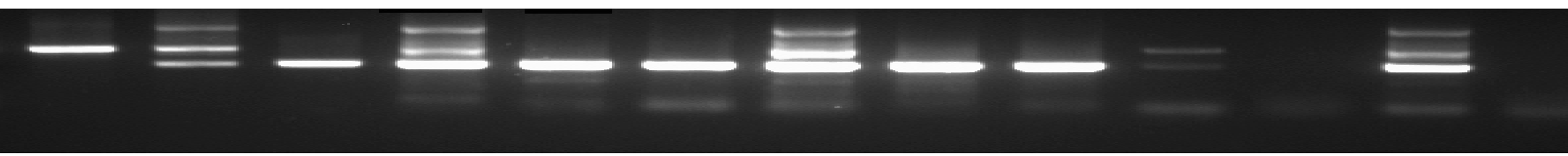

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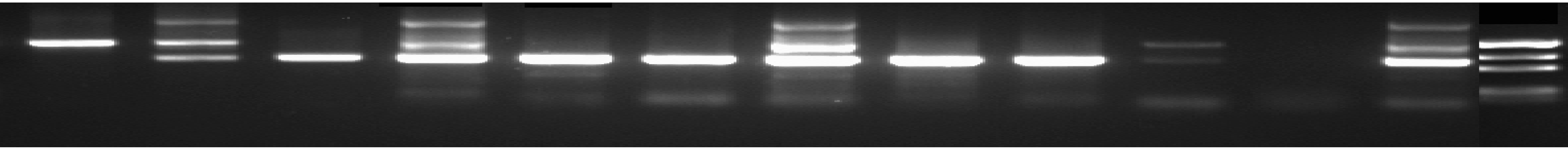
Metaphor

Agarose is a transparent solution in electrophoresis, which is the basic element in biochemistry experiment, while Biochemistry is one major research branch in CNSI building.

The appearance of CNSI building corner, when you drive by, a dysfunction wall is installed as an information barrier, leaving drivers and passengers in doubts.

By being transparent, information symmetry should be embodied virtually and physically.



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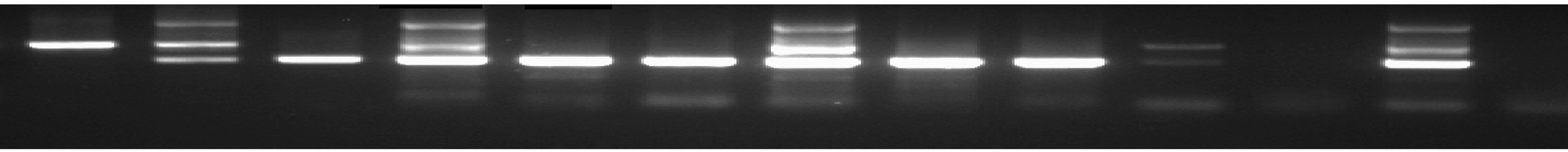

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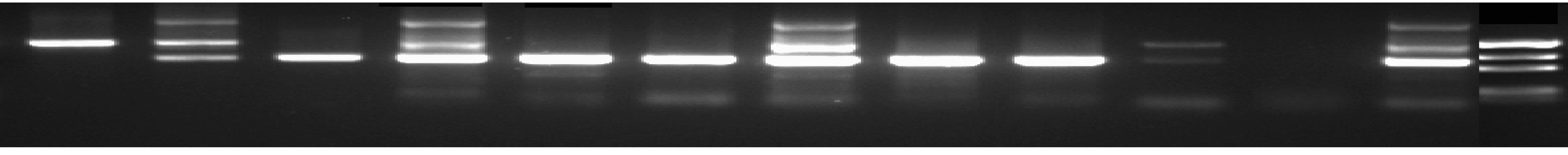
Concept

The idea originates from electrophoresis in both form and function.

To unfold the biological mystery, revelation of bioinformation starts from the very basic laboratory routines like protein separation.

The physicality of the proposed installation mimics electrophoresis in both its mechanism and appearance.



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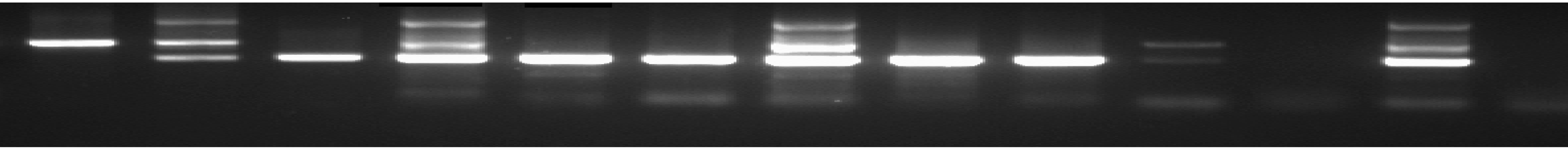
Function

The Wall, as an interface, should be visually penetrated, and that is made possible by technology of holography. Holography technology embodies the ideal wall in a physically transparent and virtually informative way.

Boundary of new knowledge can thus be transformed and expressed to cultivate interdisciplinary cooperation. In practice, scientific visualization facilitates prevalence of knowledge and reflection upon perspectives to a phenomenon.

MAT serves a role in interpretation of scientific data.



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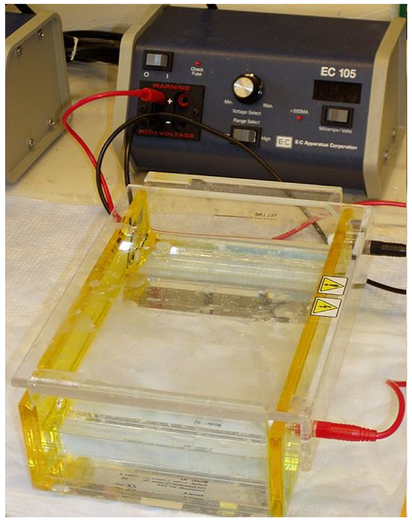
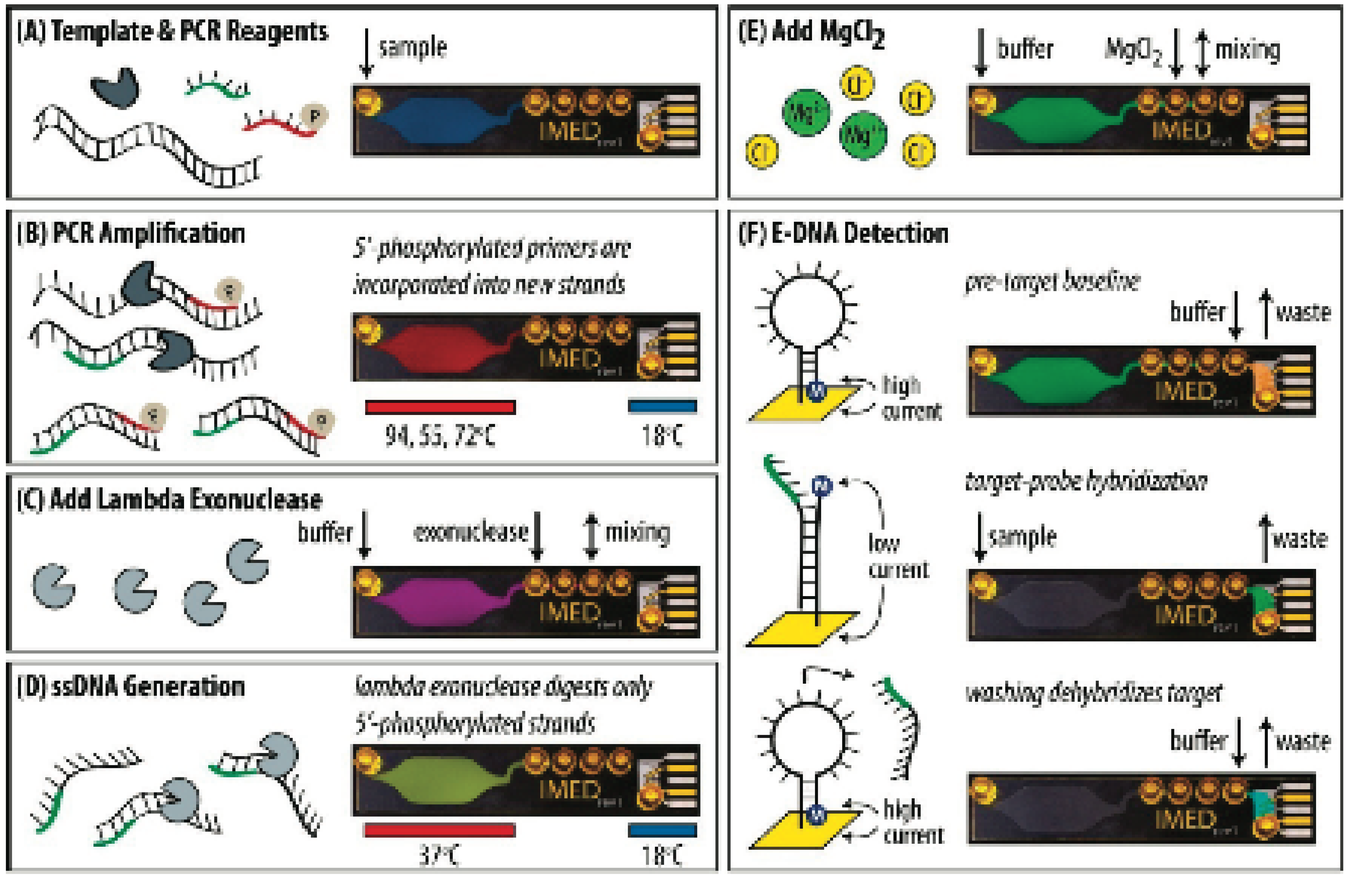
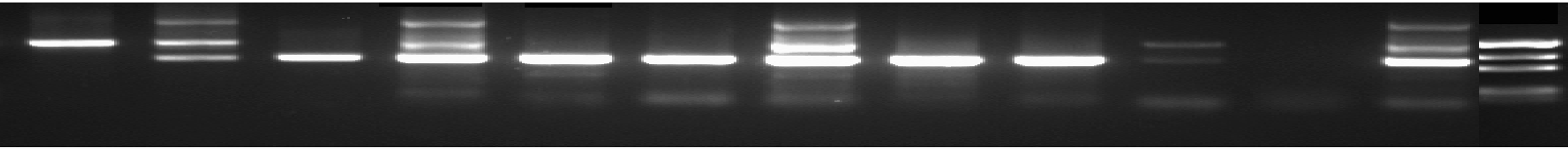


Electrophoresis

mainly refers to gel electrophoresis, which is a technique for the separation of deoxyribonucleic acid(DNA), ribonucleic acid(RNA), or protein molecules using a electric field applied to a gel matrix. DNA gel separation is usually performed for analytical purposes but may be used as a preparative technique prior to other methods for further characterization.

IMED developed by Tom Soh Laboratory genetic detection at the point of care





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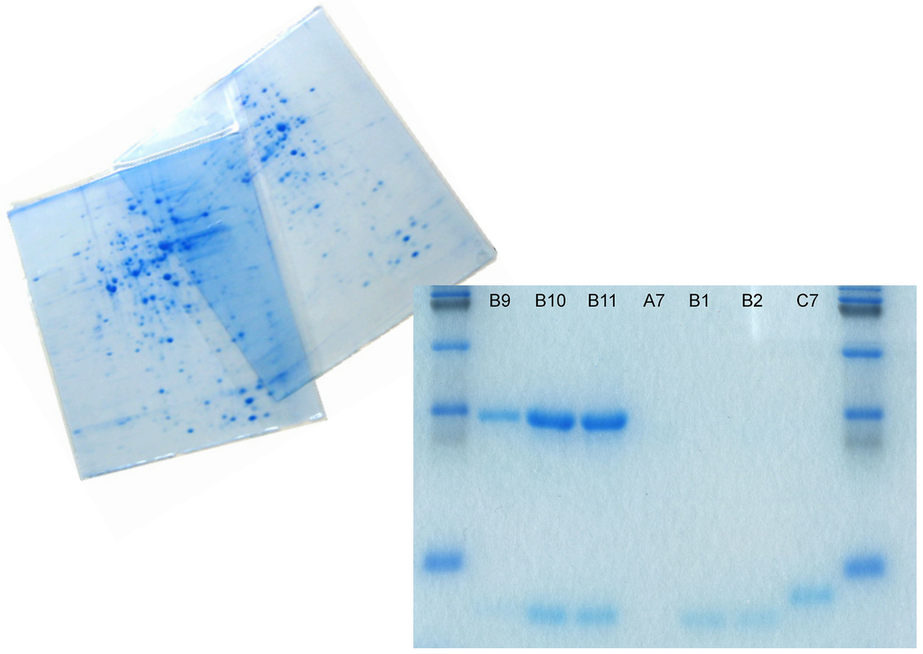
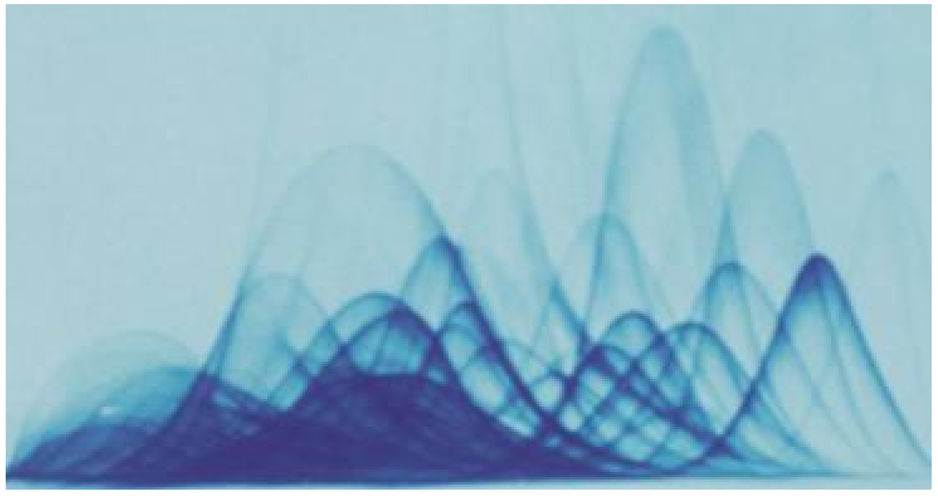
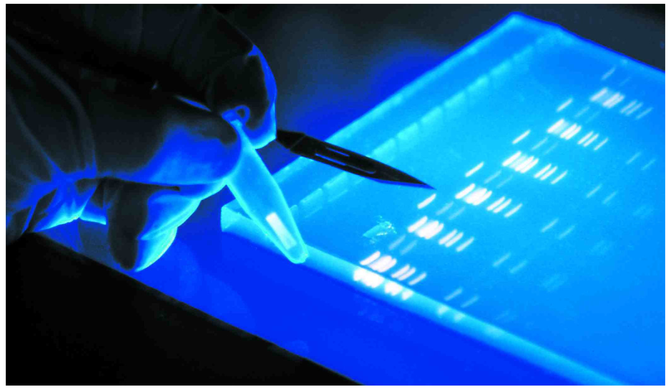
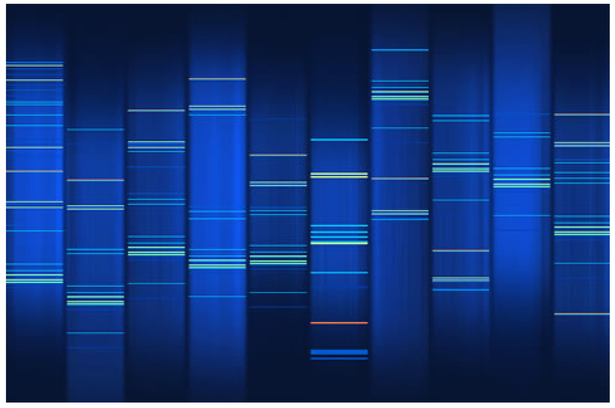
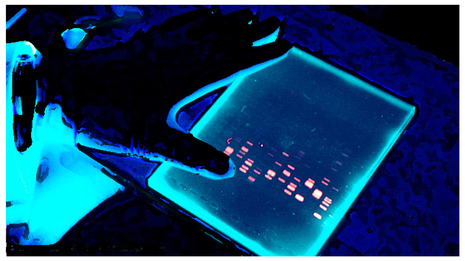
Elements of inspiration

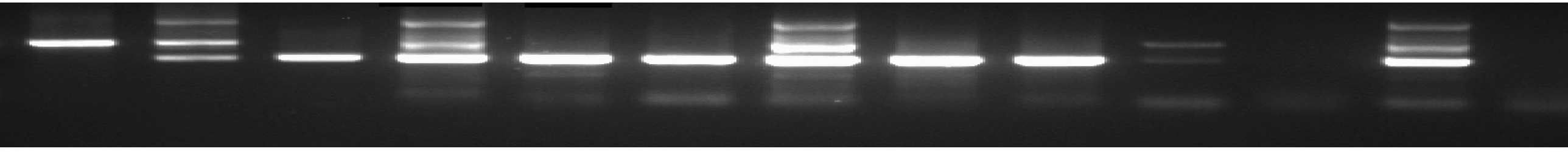












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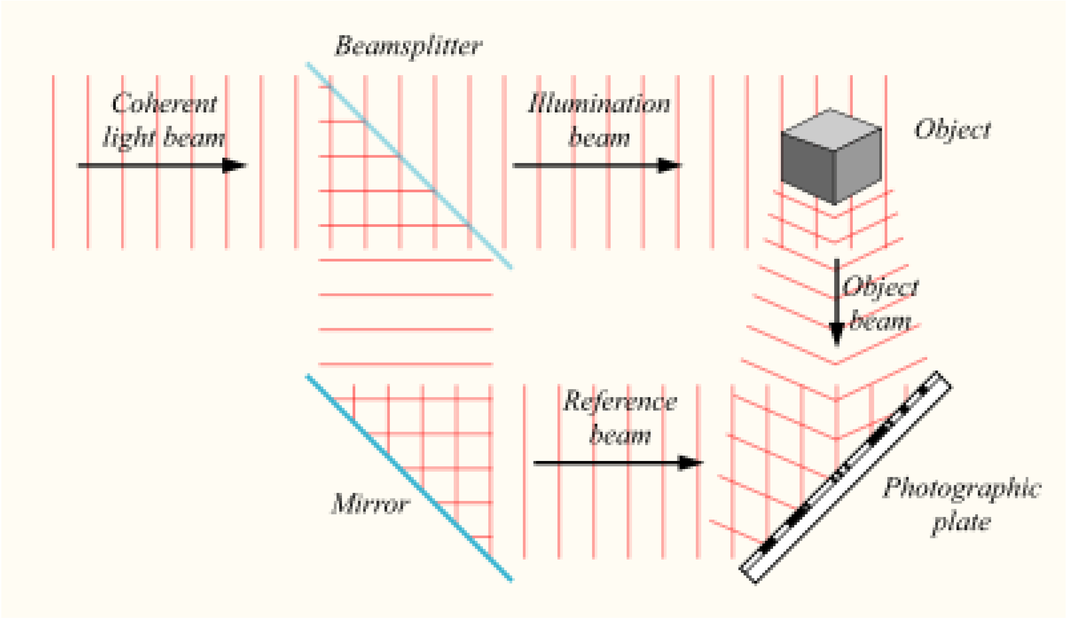
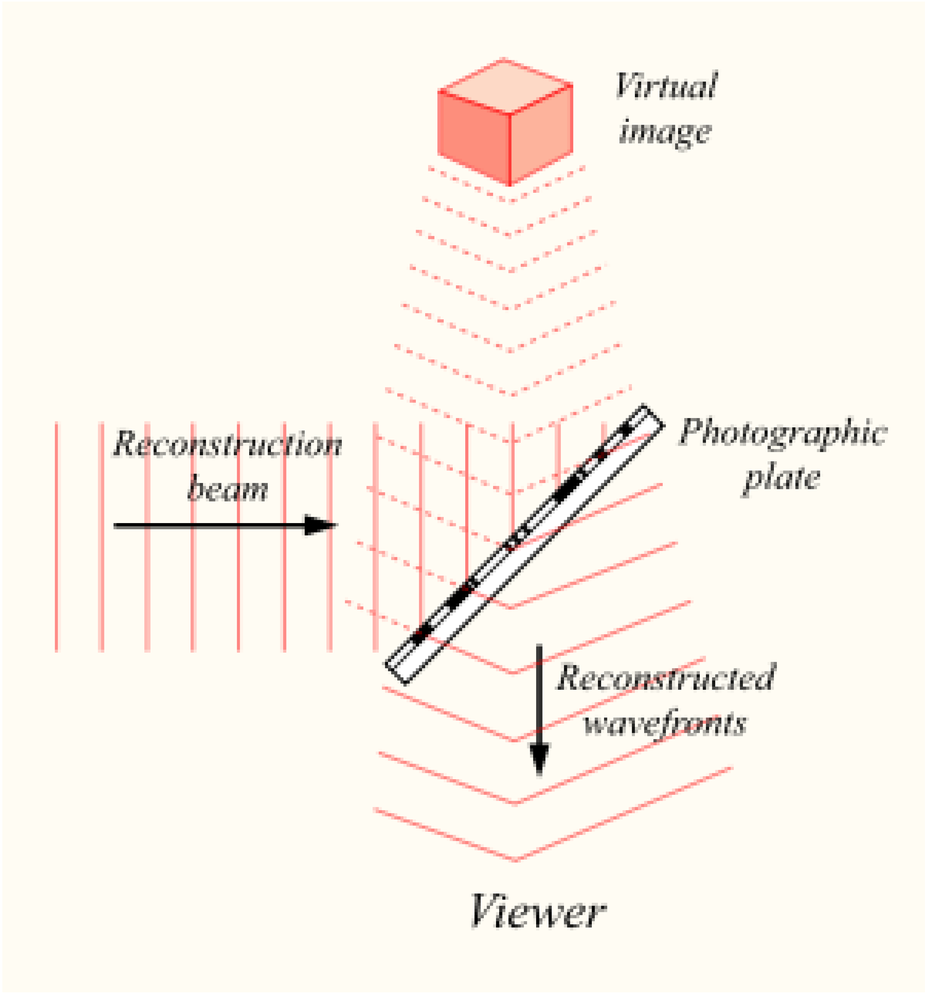
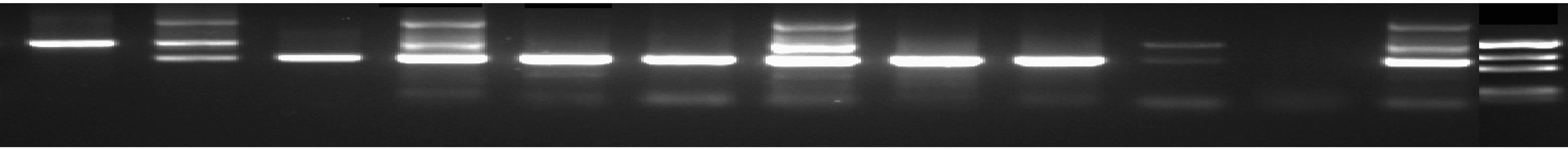




Holography

A technique that allows light scattered from an object to be recorded and later reconstructed so that it appears as if the object is in the same position relative to the recording medium as it was when recorded



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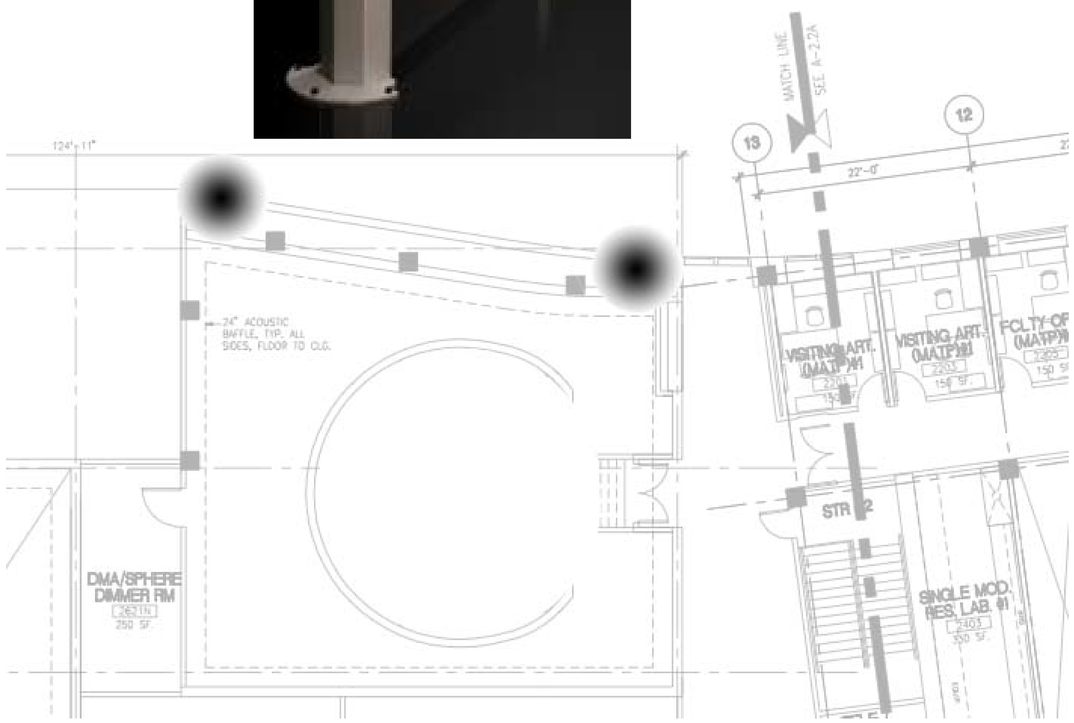
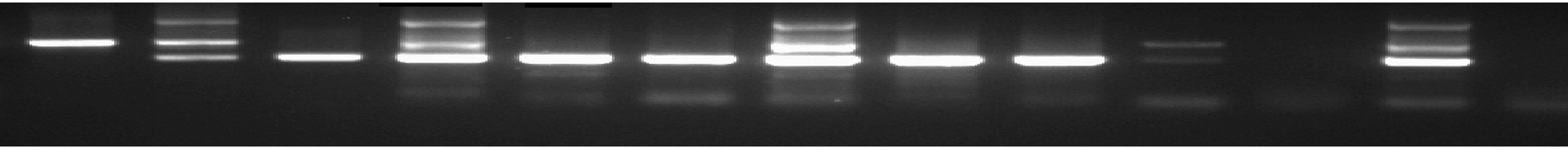
Holography tech specification
Product example- Free Format by Vizoo
Dimension- 800 x 220 cm
Image size- 700 x approx. 200 cm
Viewing angle- 180 degree
Audio- depend on player system

Our wall dimension- approx. 18 x 10 m
Purpose: reconstructed video or scientific visualization





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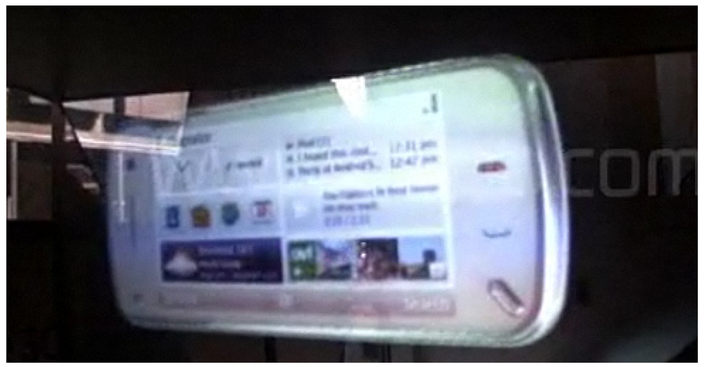

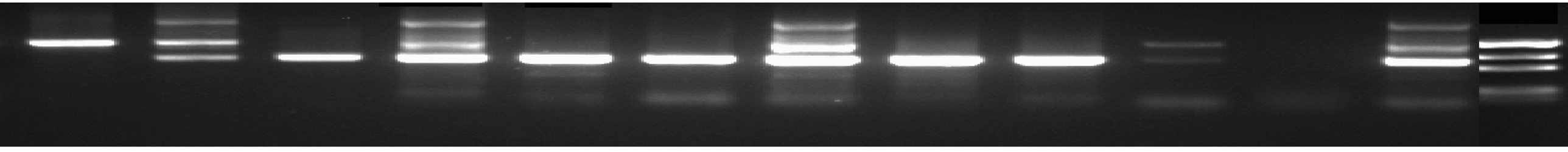

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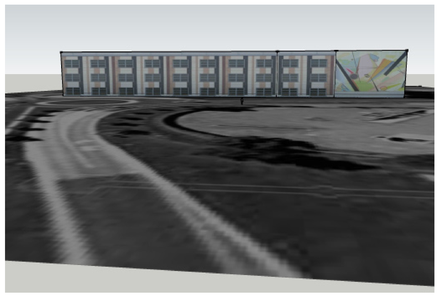
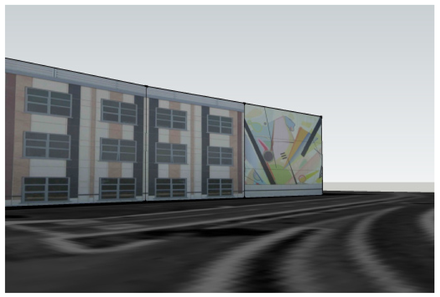
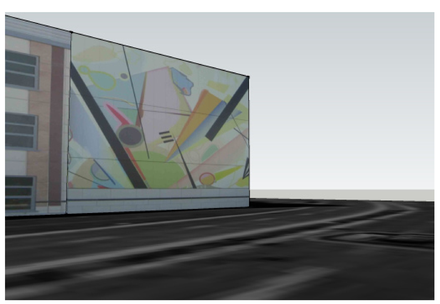
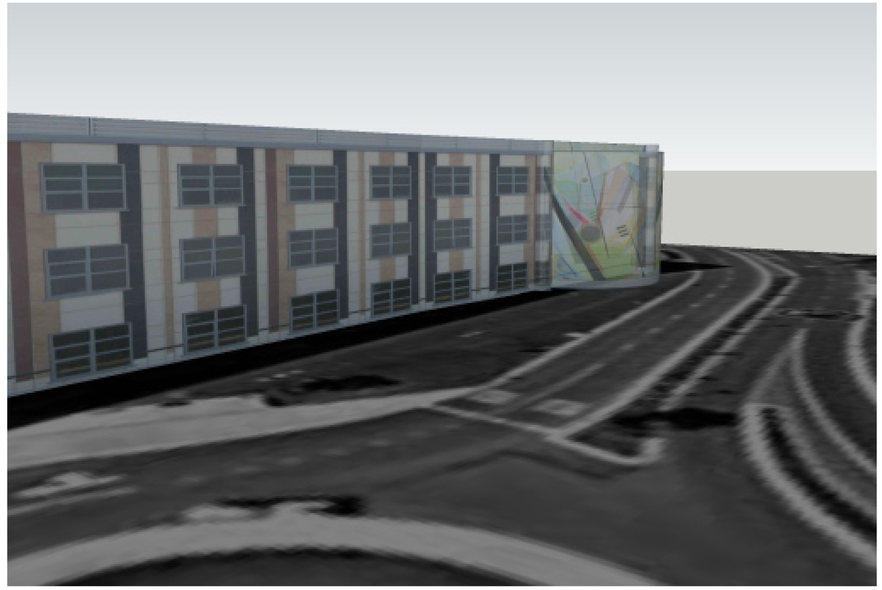
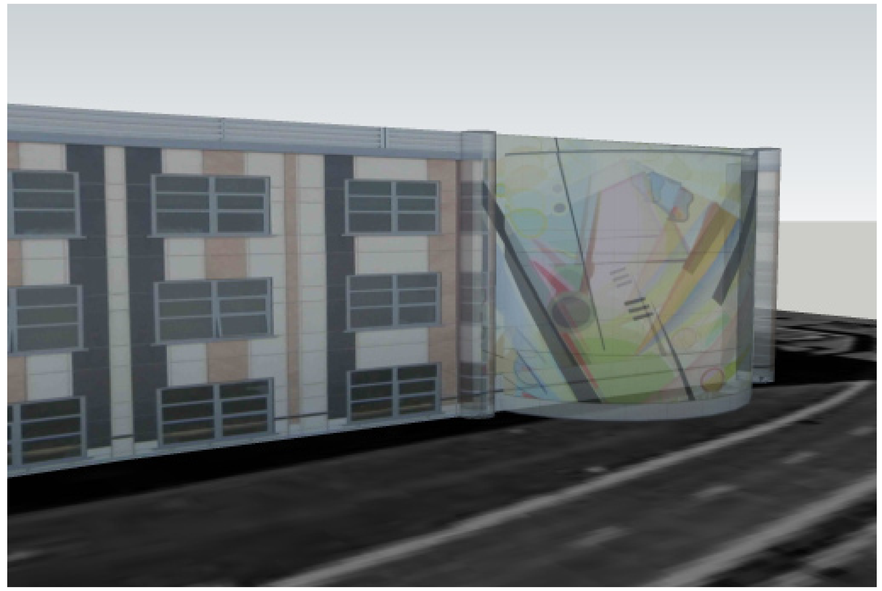
3D visualization of the proposed wall

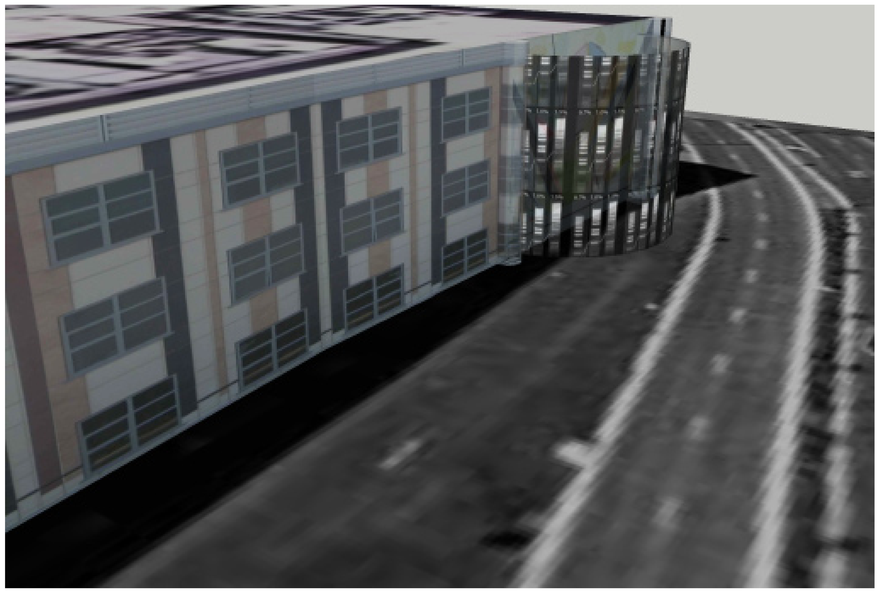


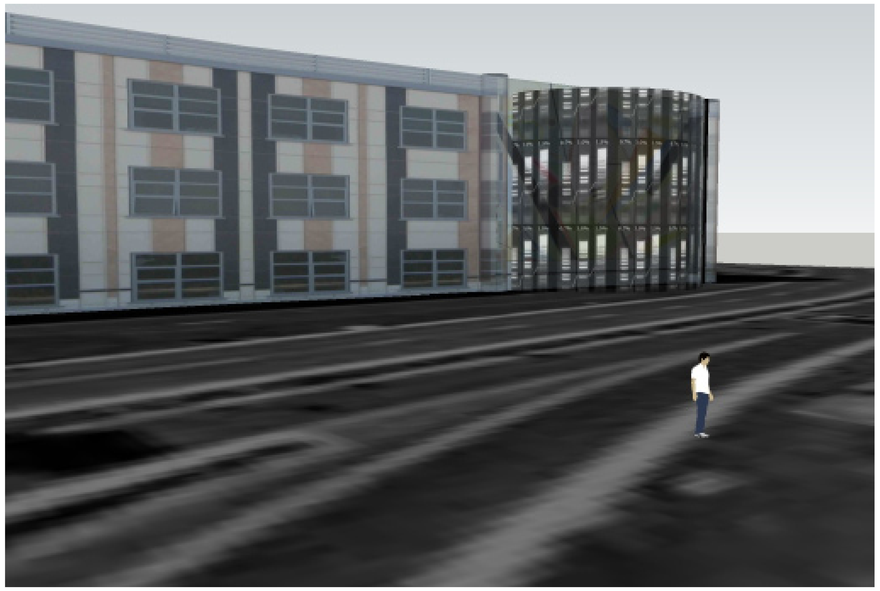


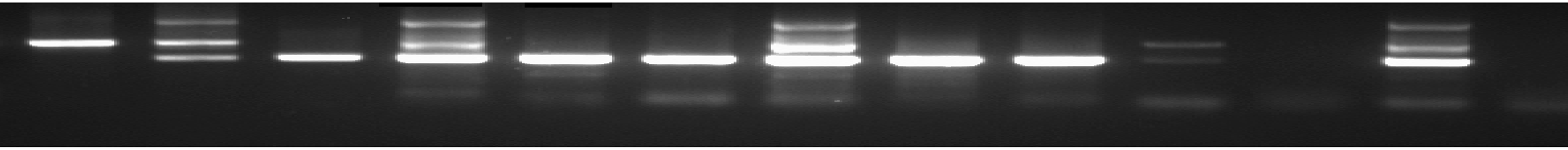












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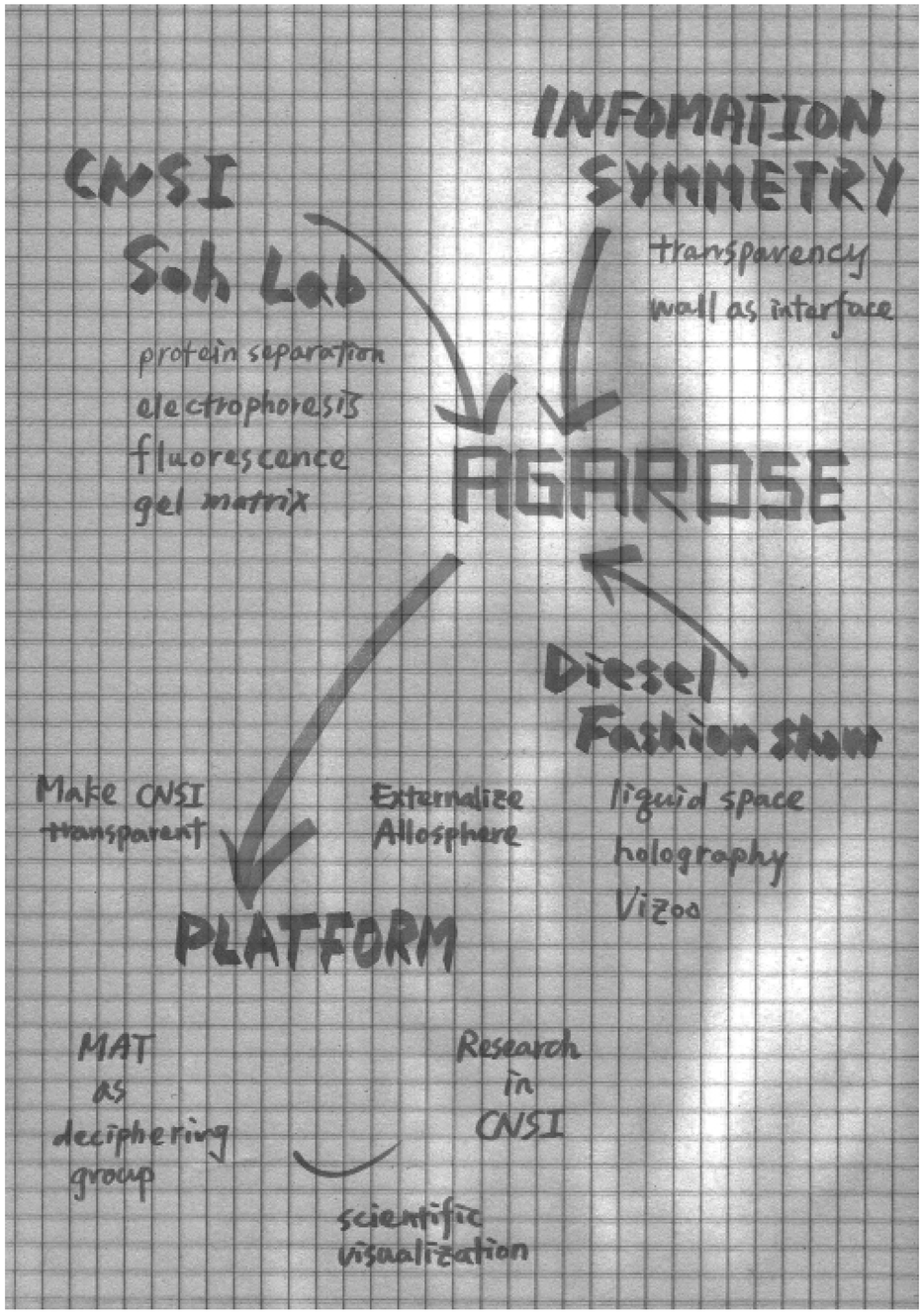

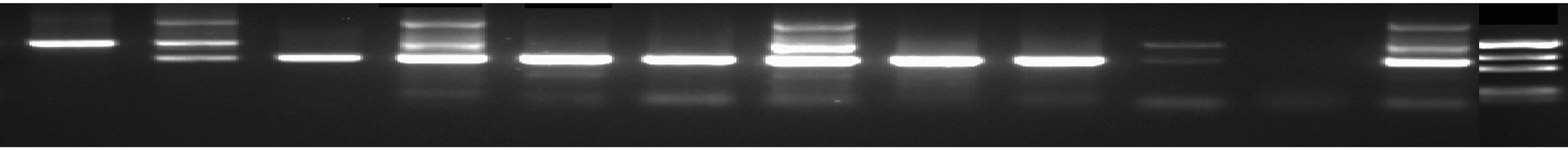

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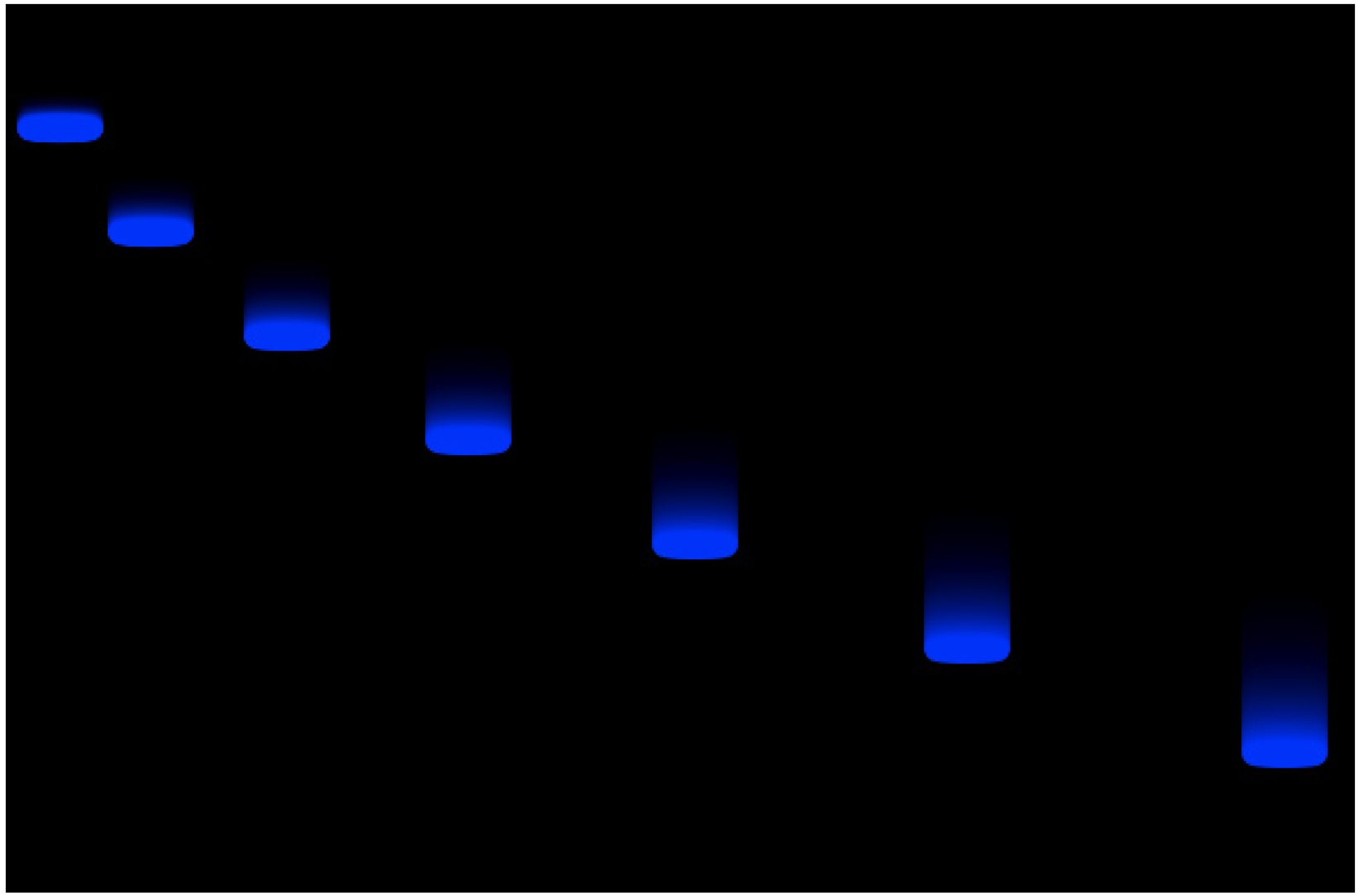
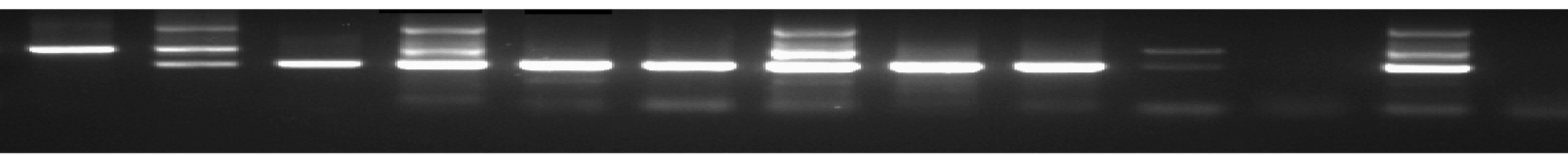


2-D Visualization of electrophoresis using Processing



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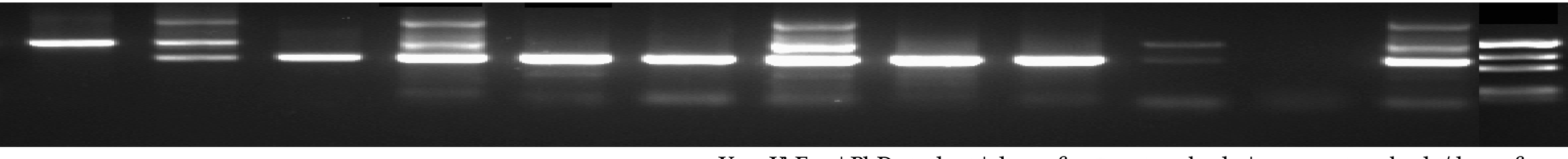

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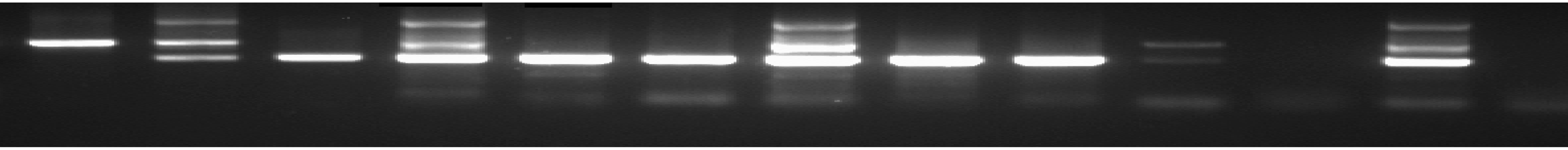
Method

As agarose in the electrophoresis container, information carriers, such as protein, penetrate through gel matrix at different speed due to molecular size, and later dyed with fluorescence materials.

In a simple case, simulated visualization of electrophoresis can be realized in Processing. Driving force can be simulated using any information flow that is representative of the building and people inside it.



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Reference

http://www.vizoo.com/

http://en.wikipedia.org/wiki/Holography

http://en.wikipedia.org/wiki/Electrophoresis

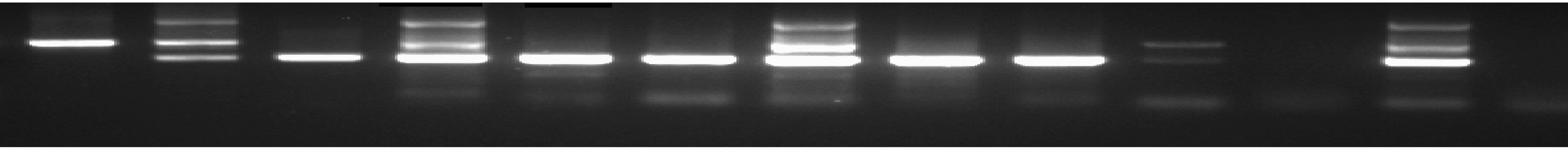
http://engineering.ucsb.edu/sohlab/publications.html

Acknowledgement

George Legrady

Andres Burbano

Feedback from M200a



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