American Chemical Society

ACS Chemistry for Life®

International Year of CHEMISTRY 2011

www.acs.org/iyc2011

Symposium on Chemistry & Culture

43rd IUPAC World Chemistry Congress

San Juan, Puerto Rico

Monday, August 1, 2011

www.scifun.org

American Chemical Society

On science literacy and culture

Bassam Z. Shakhashiri

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What differentiates our society now from all previous societies?

Science

New Discoveries

Enlightenment

Societal Progress

Societal Problems

Issues and Concerns

Globalization
Sustainable Development
Pollution
Climate Change
Evolution
Genetically Modified Organisms
Spread and Control of Disease
Drugs and Alcoholism
Tobacco

Issues and Concerns

Workforce
Science Education Standards
Teachers

Appreciation of Science
Appreciation of Technology

Energy
Human Rights
Quality of Life

Science-rich Sector

Science-poor Sector

Scientific Competence

Scientific Expertise

Science Literacy

CONNECTIVITY

CONNECTIONS


WINDSOR
Chemical Demonstrations

What is Science Literacy?

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- is aware of some of the important ways in which mathematics, technology and science depend upon one another
- knows that science, mathematics & technology are human enterprises and what that implies about their strengths and weaknesses
- is able to use scientific knowledge and ways of thinking for personal and social purposes

Science Literacy is for Everyone

Chemists, Artists, Humanists,

All Professionals, The General Public,

Youth and Adults Alike

Science is Vital to Democracy

Chemistry brings a wide range of goods and functions to everyone and thus is vital to our democracy.

Science literacy is necessary for the democratic process to work.

“Public sentiment is everything. With public sentiment, nothing can fail; without it nothing can succeed.”

>> Abraham Lincoln

THE STRONGEST FORCES IN SOCIETY

Religion

Science

Evolution

Climate Change

Respect

Trust

Confidence

Humane

Humane

Humanitarian

ADVANCING CHEMISTRY

COMMUNICATING CHEMISTRY

Chemical research, education and innovation contribute to advancing the chemical sciences to serve society.

Basic research:

- greatly increases our understanding of nature
- expands frontiers of inquiry
- triggers creative waves of invention and innovation
- prompts technological breakthroughs

Chemistry is the key to:

- eradicating disease
- reducing poverty
- providing clean water and nutritious food
- meeting energy demands
- helping lead to sustainable development everywhere

And, just as important, chemists can help society develop *the will* to improve the quality of life on the planet.

Communication

- Inform
- Educate
- Engage
- Advocate
- Persuade

Scientist-Citizen

Ahmed Zewail

Linus Pauling

Color, Light, Vision, Perception

Volume 5

Chemical Demonstrations:
A Handbook for Teachers of Chemistry

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FEBRUARY, 2011

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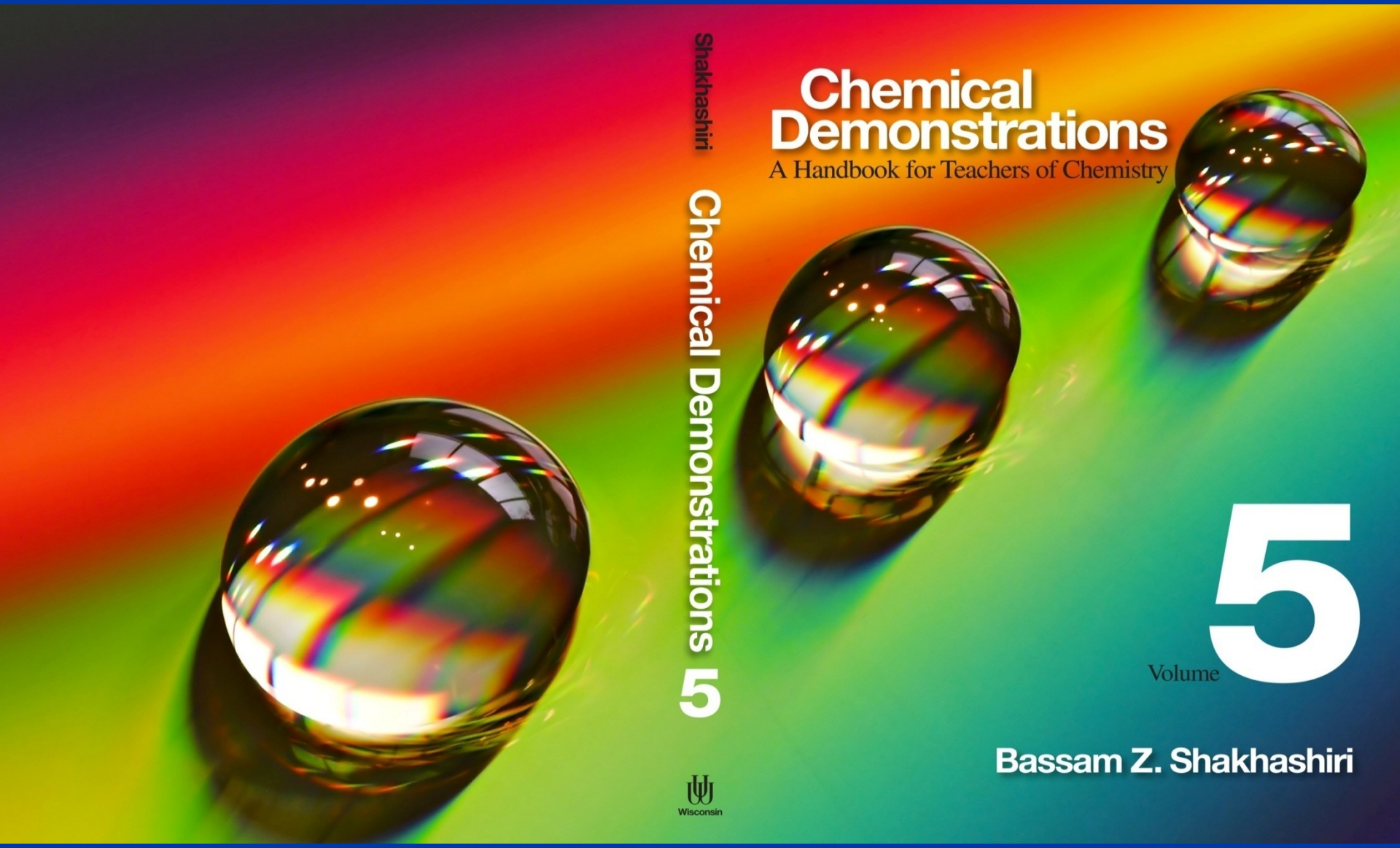
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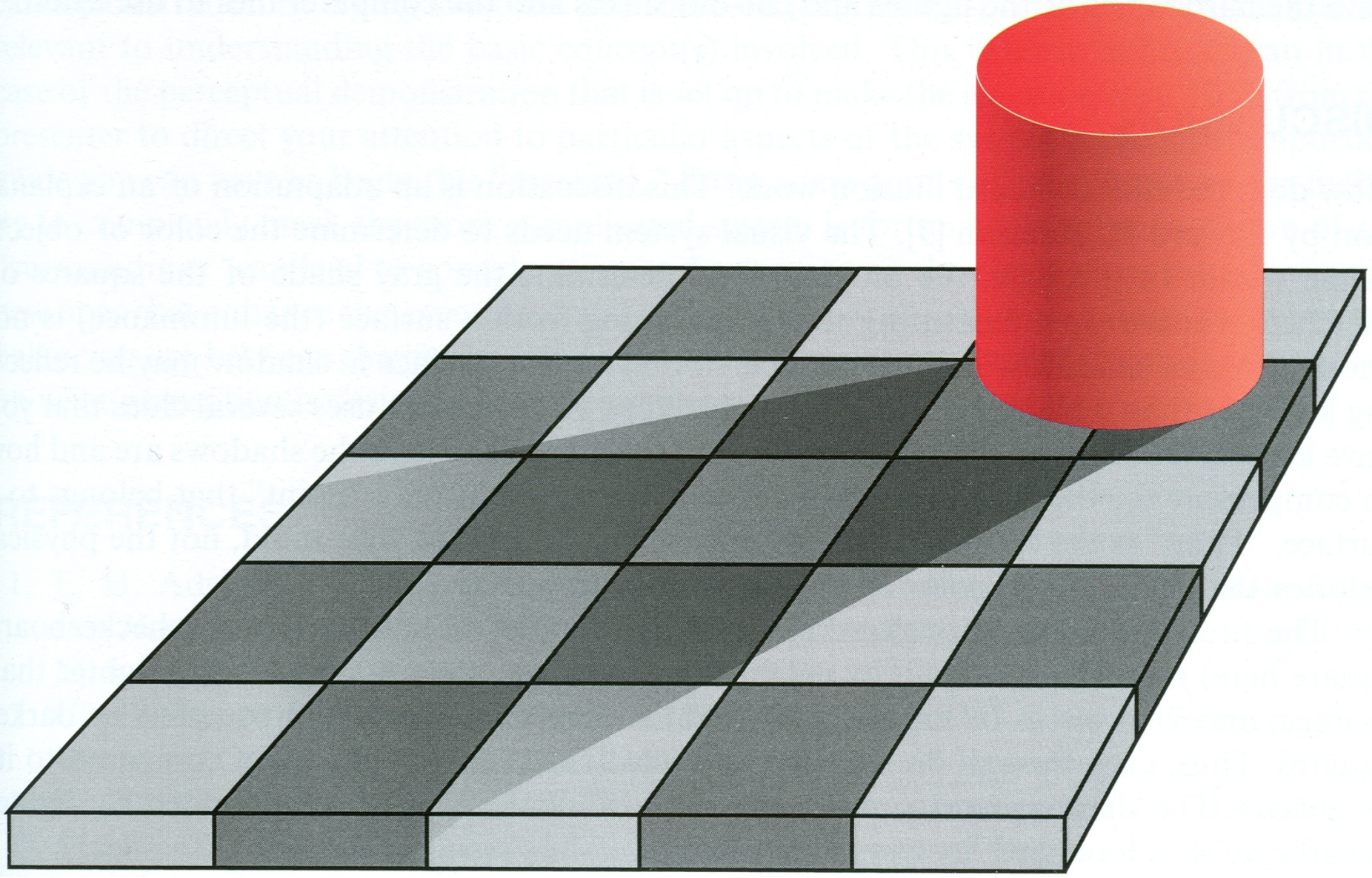

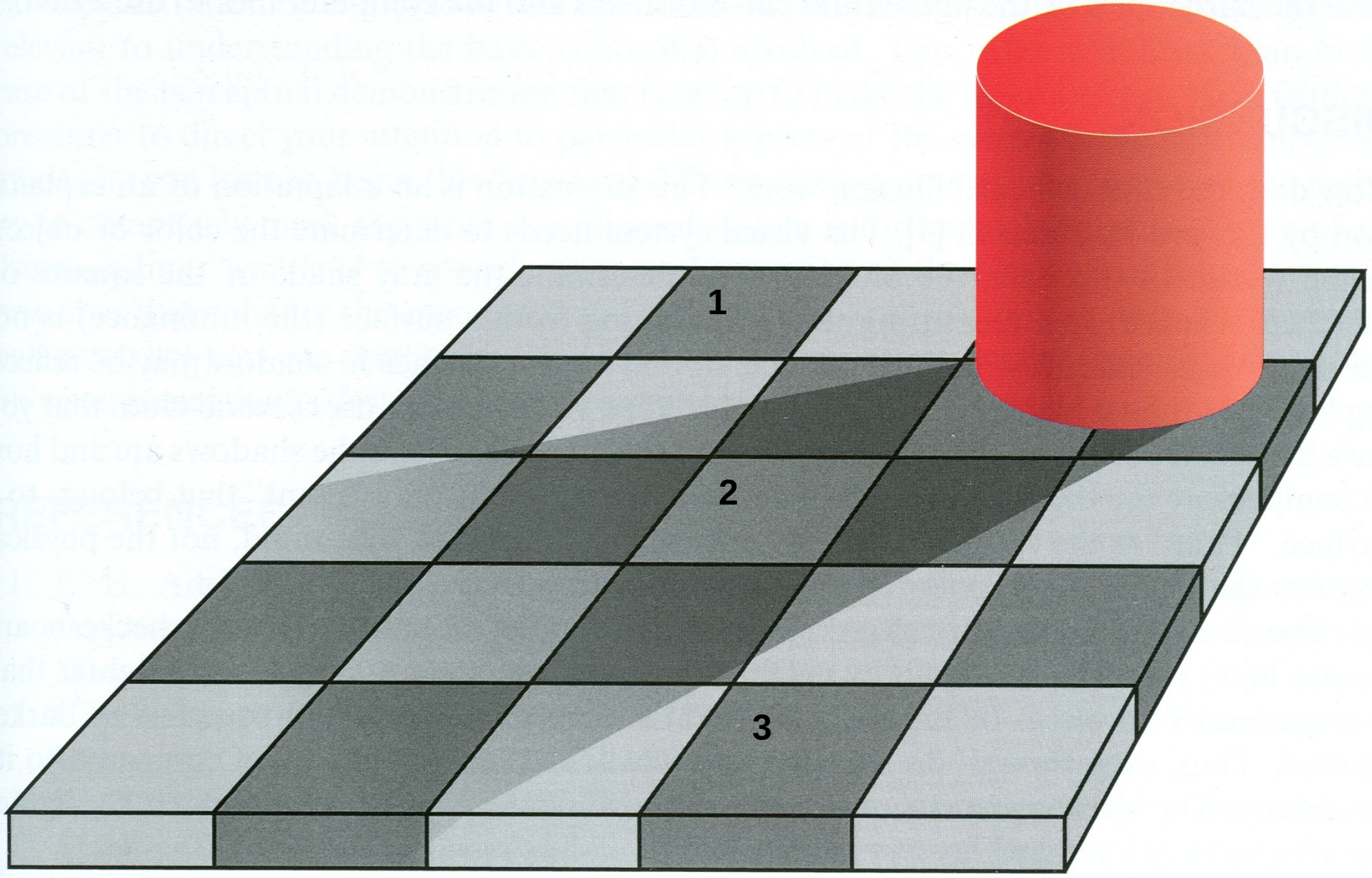
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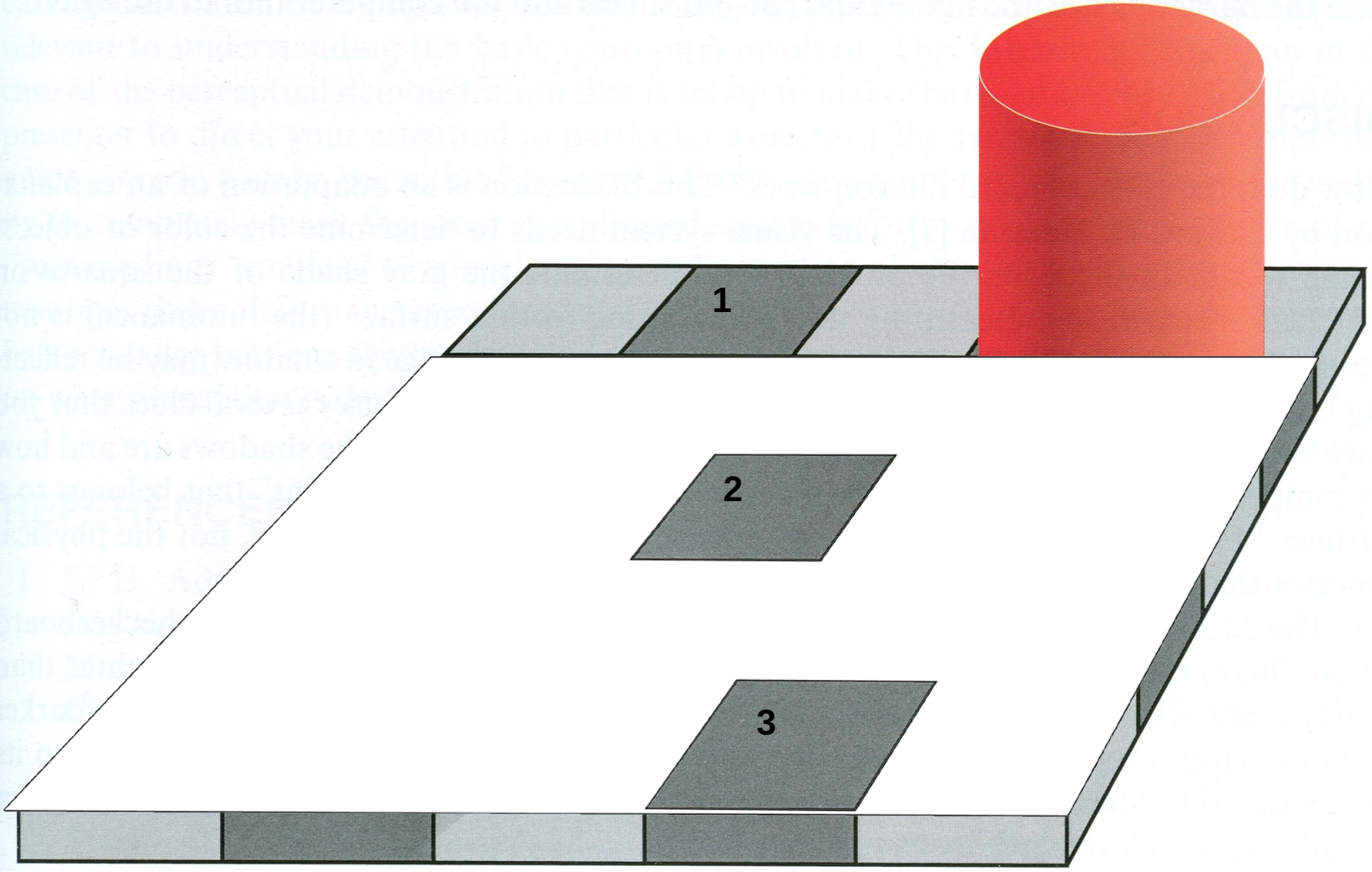
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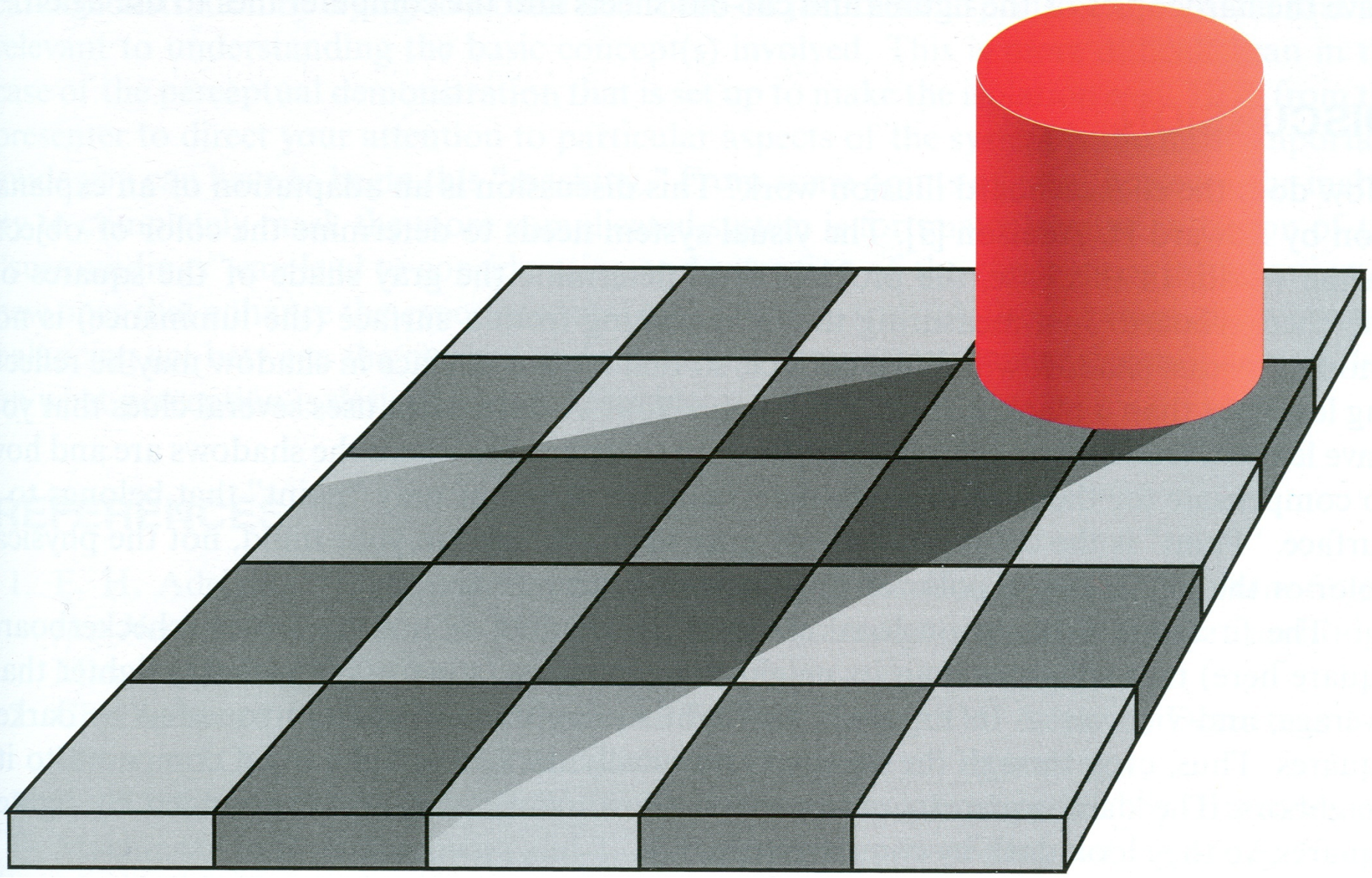
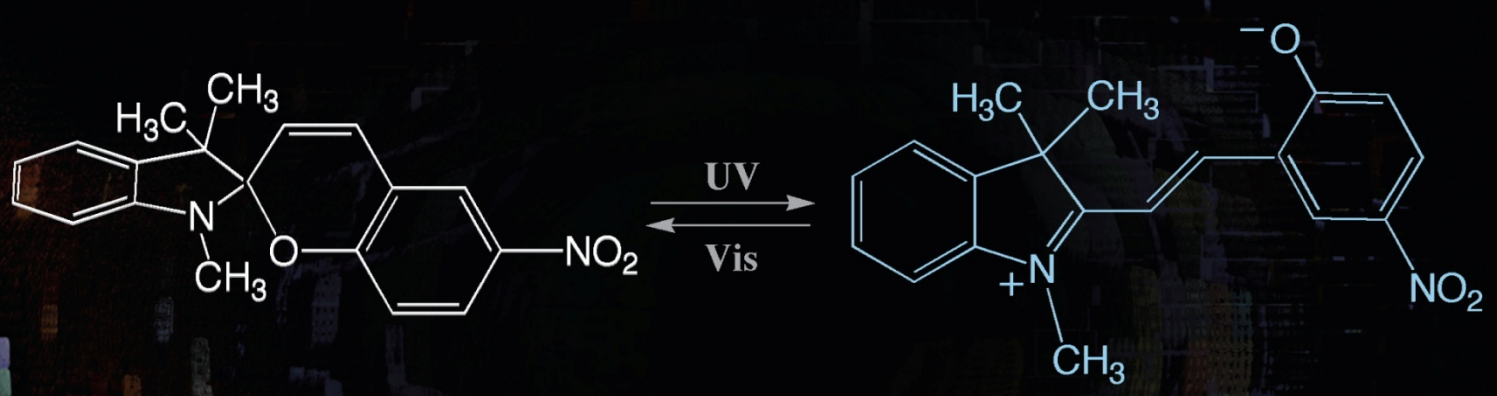
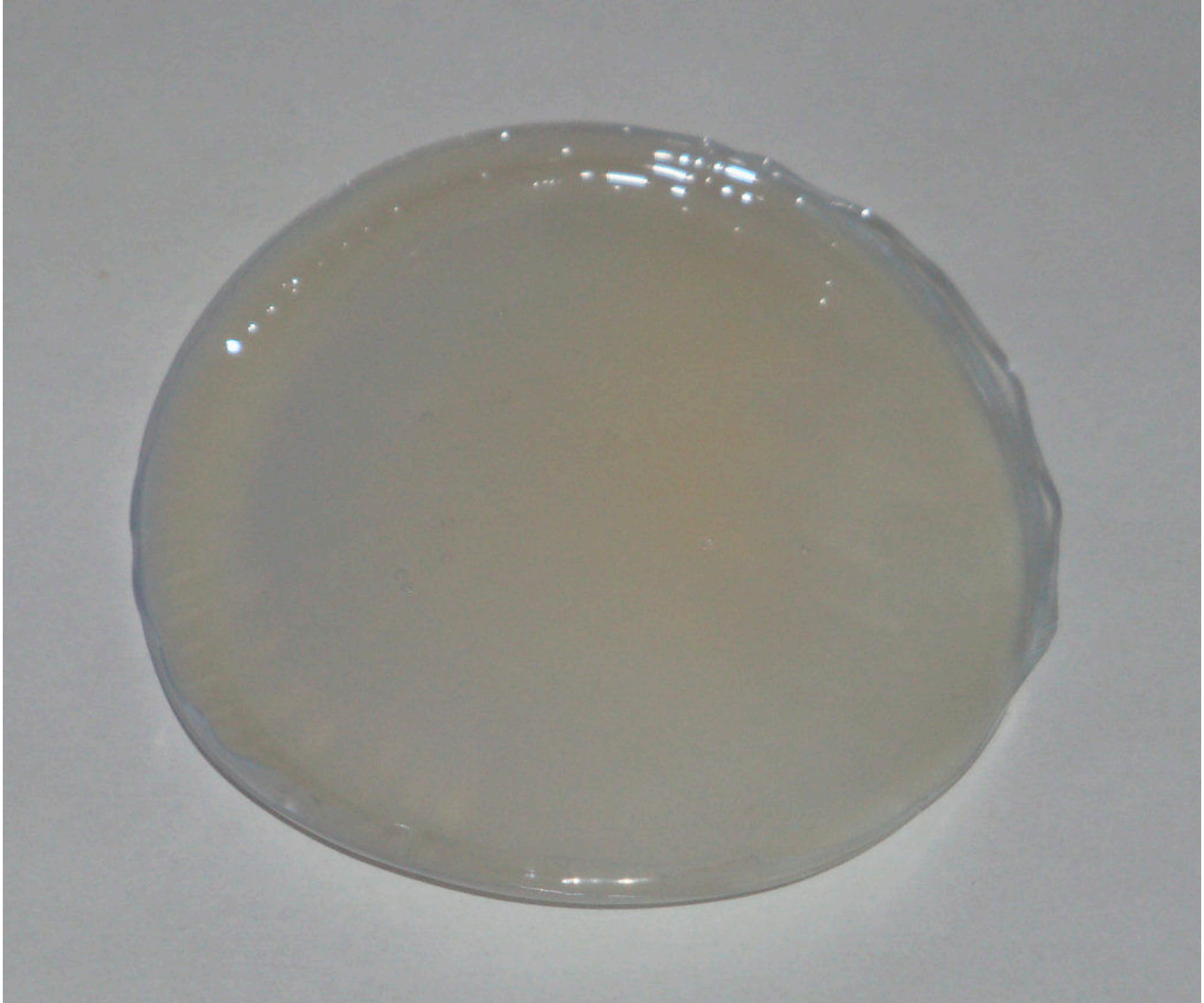
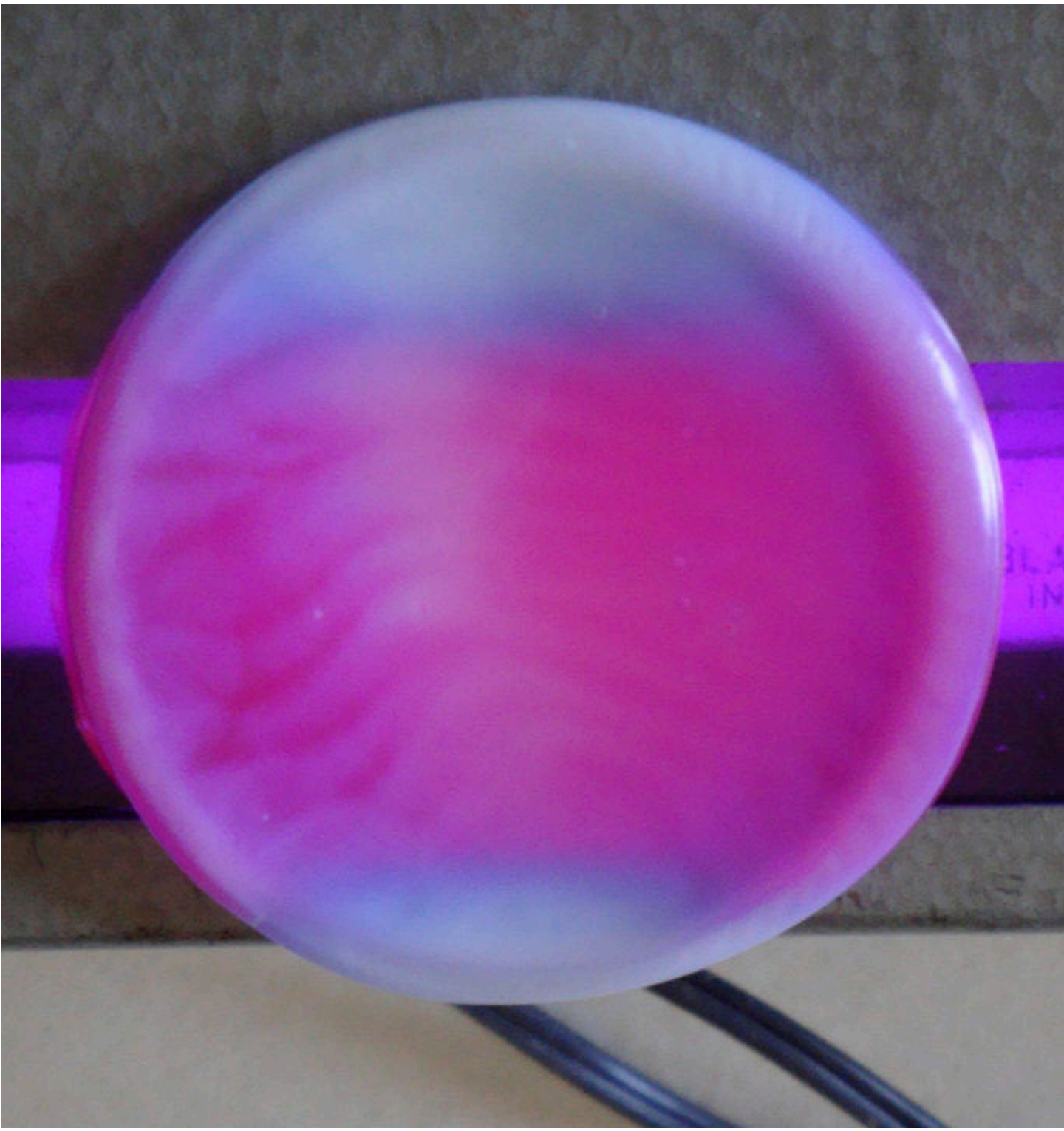


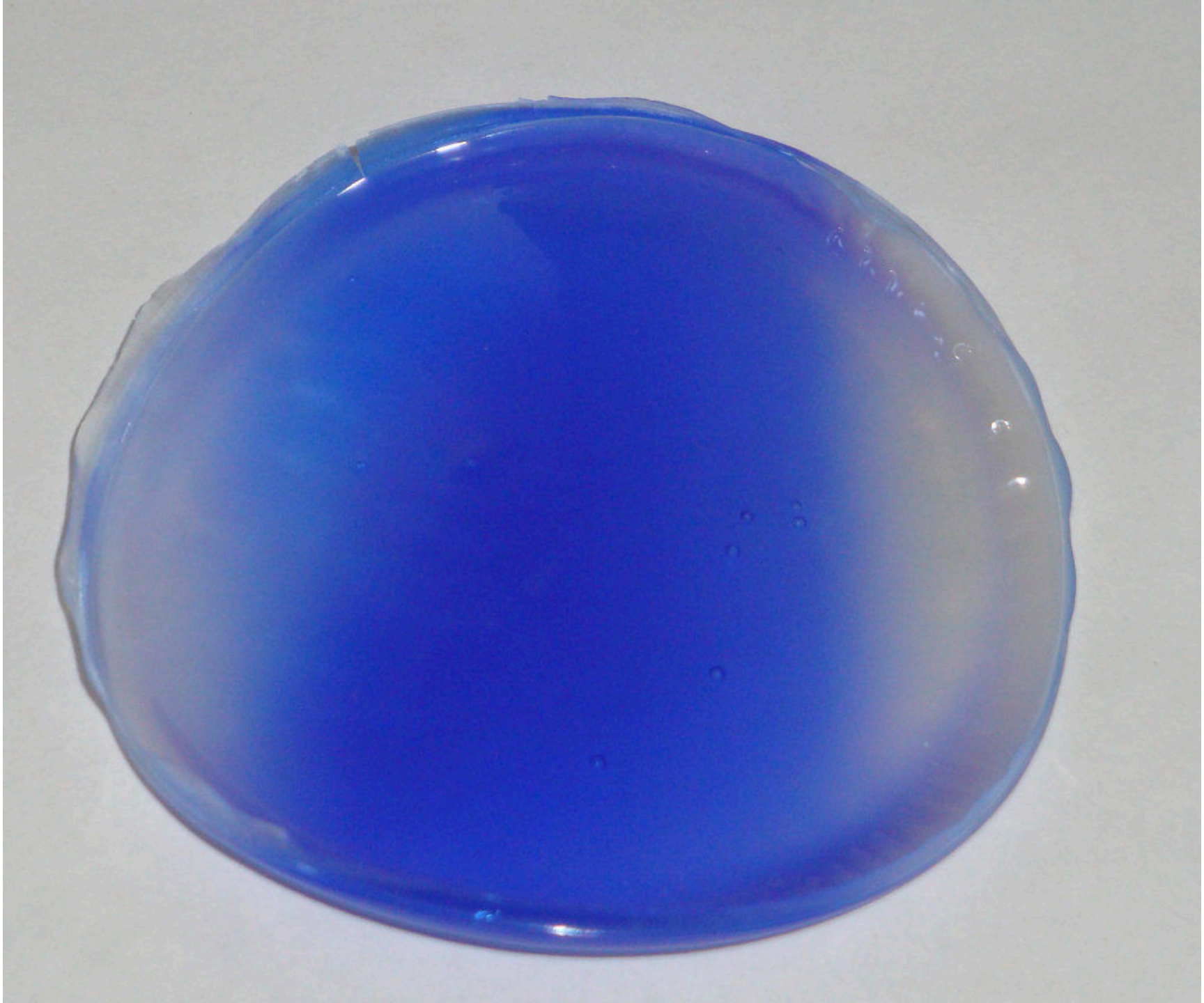


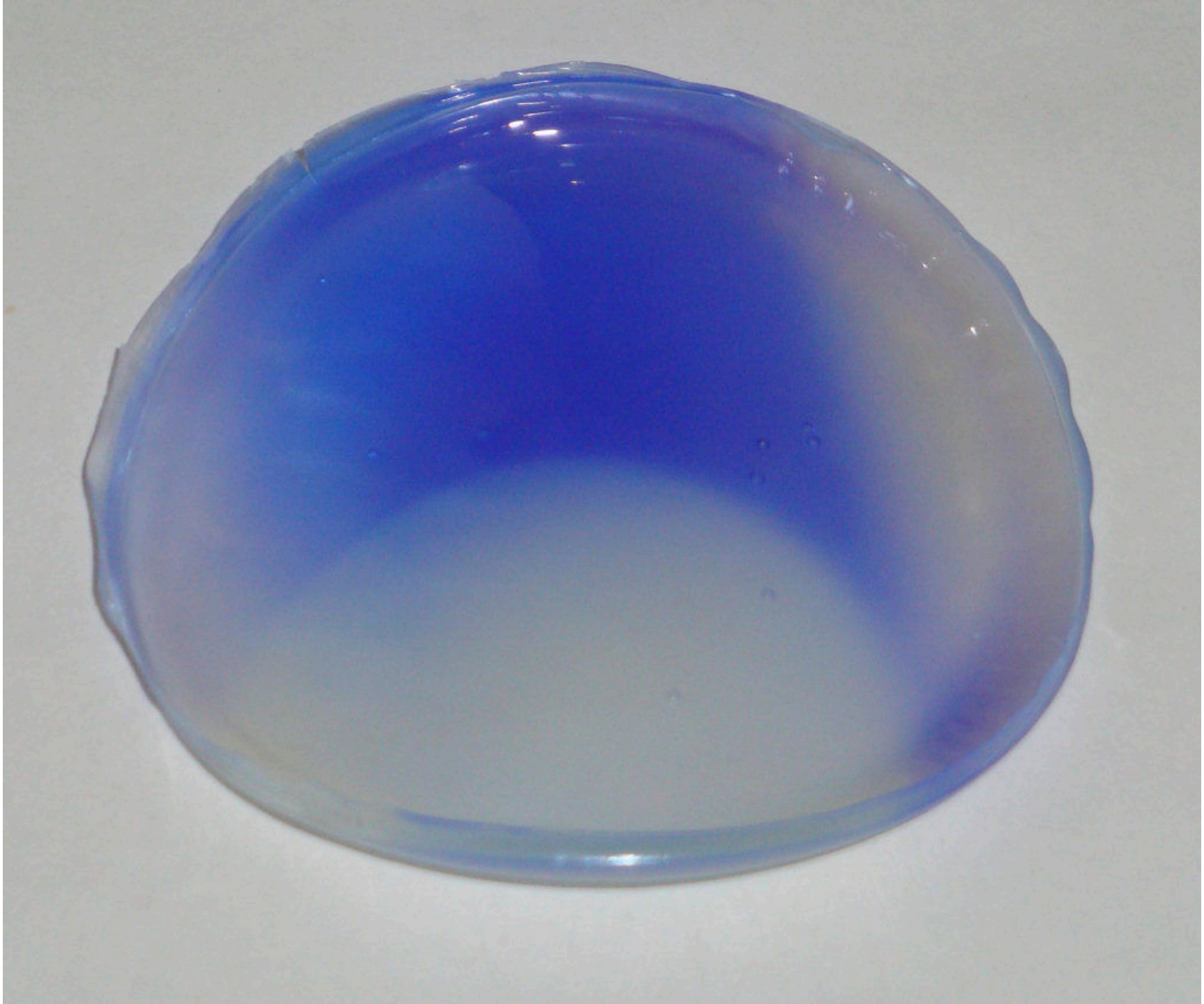
SPIRO **OPEN-CHAIN**

Why doesn't the spiro structure absorb visible light, but the open-chain structure does?









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