Article-Based Observation

Directions: Read the article "New 'rules' for finding antibiotics," and then answer these questions:	
1.	Why are bacteria called gram-negative or gram-positive? What is special about a gram-negative bacterium's structure that affects its interaction with an antibiotic?
2.	What has been the traditional way to learn how antibiotics cross the bacterial barrier? What situation has provided extra motivation for advances in drug development?
3.	What is a porin, and why are they important for antibiotic design?
4.	What did chemical biologist Paul Hergenrother and his group do to learn about porin passage?

5.	Once Hergenrother's group was finished with its initial study of the 100 compounds, what additional studies did the team perform?
6.	What antimicrobial did the researchers use to test the new "rules" discovered by their previous experiments? Why did they choose it initially, how was it altered and what was the outcome?
7.	Explain what microbiologist Kim Lewis means when he says this research could "revive the failed effort to rationally design antibiotics." What fields of science are needed to create designer antibiotics?