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Autore	Kelly Marcy A.
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Exercise 3B: The Bacterial Growth Curve Introduction; Let's Put This to Practice!; Sample Problems for Graphing on Excel; Answer to Excel Sample Problems; Exercise 3C: The Bacterial Growth Curve Post-laboratory Thinking Questions; Directions; MODULE 2: Working with and Learning About *Serratia marcescens* in the Laboratory; Exercise 4A: Protein Concentration Versus Growth Stage Pre-laboratory Thinking Questions; Directions; Exercise 4B: Protein Concentration Versus Growth Stage; Introduction; Let's Put This to Practice!; Lysis Protocol; Lowry Assay
Let's Put This to Practice!Exercise 6C: Formal Laboratory Report Describing the Conditions Affecting the Growth of and Prodigiosin Production by *S. marcescens*; Introduction; General Instructions; Exercise 7A: Biochemistry of Prodigiosin Production Pre-laboratory Thinking Questions; Directions; Exercise 7B: Biochemistry of Prodigiosin Production; Introduction; Let's Put This to Practice!; Exercise 7C: Biochemistry of Prodigiosin Production Post-laboratory Thinking Questions; Directions
Exercise 8A: The Probability Basis for Mutation Rate Calculation: A Dice-Roll Exercise Pre-laboratory Thinking Questions

Sommario/riassunto

The Fundamentals of Scientific Research: An Introductory Laboratory Manual is a laboratory manual geared towards first semester undergraduates enrolled in general biology courses focusing on cell biology. This laboratory curriculum centers on studying a single organism throughout the entire semester - *Serratia marcescens*, or *S. marcescens*, a bacterium unique in its production of the red pigment prodigiosin. The manual separates the laboratory course into two separate modules. The first module familiarizes students with the organism and lab equipment by performing growth curves, Lowry
