For the Component 1 Assessment Brief described, the report should be structured in a way that addresses the specific requirements outlined in the brief.

Title: Clearly indicate the title of the assessment as "Component 1 Assessment Report for Research Skills: MIC11107"

Introduction: Provide a brief introduction to the purpose and scope of the assessment, including a summary of the two pilot studies being analyzed. Mention the focus on critical evaluation and improvement of experimental designs.

Pilot Study 1: Development of a novel drug, ExobeseTM for the treatment of obesity

Critical Review of Data (Part A): Interpret the data provided for ExobeseTM's effect on weight loss in mice and its impact on appetite. Discuss the results and statistical analysis (Figure 1 and Table 1), and justify the conclusions drawn.

Discussion of Experimental Design (Part B): Evaluate the experimental setup and data analysis, identifying potential weaknesses or shortcomings. Suggest improvements to the experimental design and analysis to make them more robust and conclusive. Provide a justified plan for how you would improve the experiments, focusing on the same experimental method.

Recommendations for Improvement: Summarize the changes recommended for this study to enhance its robustness and the quality of the data obtained.

Pilot Study 2: Anti-microbial effects and cell toxicity of a novel bioactive compound

Critical Review of Data (Part A): Interpret the MIC assay results and the cell toxicity test results. Discuss the statistical significance and the implications for the compound's antimicrobial properties and toxicity.

Discussion of Experimental Design (Part B): Evaluate the experimental setup and data analysis for potential improvements. Suggest changes to the experimental design, and provide a reasoned plan for improving the experiments while focusing on the same method.

Recommendations for Improvement: Summarize the changes recommended for this study to enhance its robustness and the quality of the data obtained.

Conclusion: Provide a conclusion that summarizes the main findings from both pilot studies, their limitations, and the suggested improvements. Reiterate the importance of critical evaluation and continuous improvement in experimental design for drug development.