1. Abstract: Provide a concise summary of your paper, highlighting the objectives, methods, and key findings.
2. Introduction:
   * Background: Introduce the concept of variational autoencoders (VAEs) and their applications in generating molecules.
   * Problem Statement: Describe the specific problem you are addressing, such as generating molecules based on a starting molecule and given conditions.
   * Research Objectives: Clearly state the goals and objectives of your study.
   * Significance: Explain the importance and potential applications of generating molecules using VAEs.
3. Related Work: Review existing literature and studies related to VAEs, molecule generation, and relevant techniques. Discuss the strengths and limitations of previous approaches.
4. Methodology:
   * Variational Autoencoders: Explain the fundamentals of VAEs, including the encoder, decoder, and the objective function used for training.
   * Molecular Representation: Discuss the representation of molecules used in your study, such as SMILES strings or molecular graphs.
   * Training Procedure: Describe the process of training the VAE on molecular data, including the choice of loss functions, optimization algorithms, and hyperparameters.
5. Data Collection and Preprocessing:
   * Data Sources: Describe the datasets used in your study, including the origin, size, and properties.
   * Data Preprocessing: Outline any preprocessing steps undertaken, such as removing duplicates, standardization, or filtering.
6. Experimental Setup:
   * Evaluation Metrics: Define the metrics used to assess the quality and diversity of generated molecules.
   * Baseline Models: Introduce any baseline models or existing methods for comparison.
   * Implementation Details: Provide information about the software, libraries, and hardware used in your experiments.
7. Results and Analysis:
   * Quantitative Analysis: Present and interpret the quantitative results obtained, comparing the performance of your method with baselines.
   * Qualitative Analysis: Showcase sample molecules generated by your model, highlighting their diversity and adherence to the given conditions.
   * Discussion: Analyze the results, addressing any limitations, potential sources of error, and insights gained.
8. Conclusion:
   * Summary: Recapitulate the key findings and contributions of your study.
   * Implications: Discuss the implications of your work for the field of molecule generation and VAEs.
   * Future Directions: Suggest potential avenues for further research and improvements.
9. References: List all the references cited in your paper following a consistent citation style (e.g., APA, IEEE).