

Figure 9 provides a summary of the general electrochemical process used to investigate the potential influence of polarity direction on the removal of pollutants from poultry slaughterhouse wastewater.

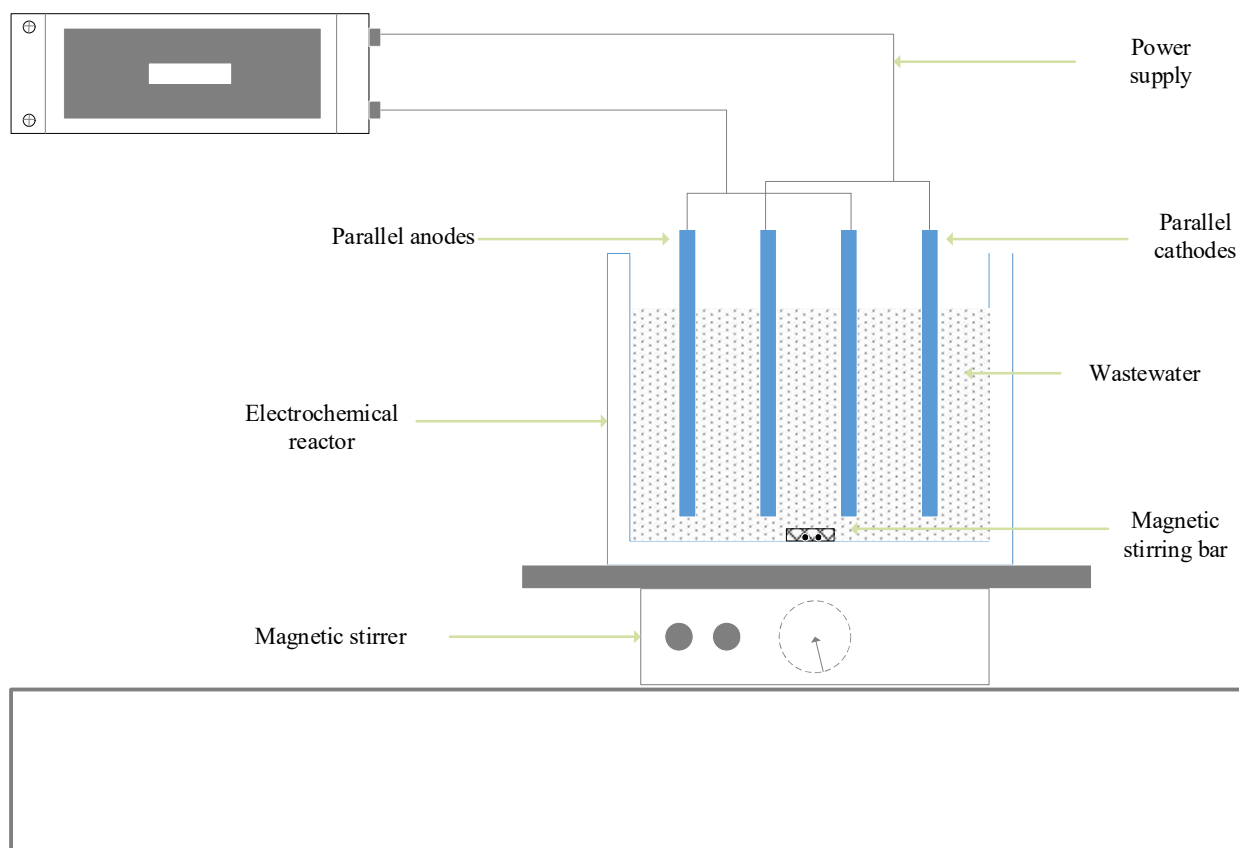


Figure 9. Experimental setup.

3.3. Statistical Analysis

3.3.1. Removal Efficiency Analysis

Both raw wastewater and purified effluent were subjected to statistical analysis, including the removal efficiency computations based on the electrode materials (aluminium and titanium) and their arrangements. Percent removal analysis was used to investigate the performance of the studied electrochemical systems based on the polarity arrangements. In summary, the approach used to calculate the treatment efficiencies is based on Equation (1).

$$T_e(\%) = \frac{C_r - C_t}{C_r} \times 100 \quad (1)$$

whereby; T_e stands for the removal efficiency; C_r stands for the concentration in the raw wastewater and C_t stands for the concentration after treatment.

The final effluent was also analyzed for conformity with various drinking water quality requirements. The approach utilized for compliance computation is summarized in Equation (2).

$$C_p(\%) = \left(\frac{S_i - C_i}{S_i} \right) \times 100 \quad (2)$$

whereby;

C_p , percent compliance,

S_i , the recommended standard for an i th parameter,

C_i , the concentration of the i th parameter.