**SVM parameter optimization:** Training sets from EL-Manzalawy and Chen datasets were trained under 10-fold cross-validation using various \( C \) and \( \gamma \) values. Optimal set of \( C \) and \( \gamma \) values for each peptide representation is indicated below the plot.

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**SVM12 10-fold Cross-Validation**

\[ C = 0.1 \text{ and } \gamma = 0.0001 \]

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**SVM14 10-fold Cross-Validation**

\[ C = 0.1 \text{ and } \gamma = 0.0001 \]
C=1 and $\gamma=0.01$

C=10 and $\gamma=0.001$
C=10 and γ =0.001

C=100 and γ =0.0001
BFE-SVM14 10-fold Cross-Validation

C=100 and $\gamma = 0.0001$

BFE-SVM16 10-fold Cross-Validation

C=100 and $\gamma = 0.0001$
C=100 and $\gamma = 0.0001$

C=100 and $\gamma = 0.0001$
C=100 and \( \gamma = 0.0001 \)