1. DP, let n_i denote the number of occurrences of character i in the input string, and let $f[i][j]$ denote the number of possibilities when the length of the sequence is i and we only use the first j characters ($1 \le j \le |\Sigma|$). $f[i][j] = \sum_{0 \le k \le \min\{i, n_j\}} \binom{i}{k} f[i-k][j-1]$. running time $\sum_{j=1}^{|\Sigma|} O(n) \cdot O(n_j) = O(n^2)$ (independent of $|\Sigma|$).
2. use EGF. let $F_m(x) = \sum_{i=0}^{m} \frac{x^i}{i!}$, we only need to compute $\prod_{j=1}^{|\Sigma|} F_{n_j}(x)$. use divide and conquer & FFT, $O(n \log^2 n)$ or $O(n \log n \log |\Sigma|)$ using our partition lemma or Huffman tree (can improve to $O(n \log n)$?).
references: 国家集训队2015论文集：金策《生成函数的运算与组合计数问题》.

References