X_T and Y_T should have similar histograms.

$L(Y_T \mid X_T)$

X_T - true

Y_T - observed

$|X_T| = \text{sum}(\text{values}[\text{keys}] : \text{keys})$

$X_T = \{ \text{Count}[\text{observed}], \emptyset[\text{unobserved}] \}$

$$Y_T = \begin{cases} AB \to 1 & 1/6 \\ A \to 3 & 1/2 \\ C \to 2 & 1/3 \end{cases}$$

6

$$X_T = \begin{cases} AB \to 1 \\ A \to 2 \end{cases}$$

Possibilities: $\boxed{A, AB, ABC, B, BC, C}$

$M(|X_T|; $

Hamiltonian:

$\propto \exp(-$

Each peak independently changed

Blaise : $\begin{pmatrix} A \\ \text{Observed} \\ \\ A_1, \dots, A_n \end{pmatrix}$ $\prod_{i=1}^{n} \left(\frac{X_i + \varepsilon}{\sum X_i + n\varepsilon} \right)^{A_i} \rightsquigarrow \sum_{i=1}^{n} A_i \left[\log(X_i + \varepsilon) - \log\left(\sum_{i=1}^{n} X_i + n\varepsilon\right) \right] \rightsquigarrow$

$\rightsquigarrow \sum_{i=1}^{n} A_i \log(X_i + \varepsilon) = \sum_{\boxed{X_i} > 0} A_i \log(X_i + \varepsilon) + \left(\sum_{X_i = 0} A_i \right) \log(\varepsilon)$

0

potential for $-\infty$

Put exception here

Total N° of possibilities

Is it needed ? $\boxed{N_0}$

Other possibilities

3x Counter

$\|p_A - p_B\| = \sum_{\substack{X_i = 0 \\ A_i > 0}} p_{A_i} + \sum_{\substack{A_i > 0 \\ X_i > 0}} |p_{A_i} - p_{X_i}| + \sum_{\substack{X_i > 0 \\ A_i = 0}} p_{X_i}$

(FALSE TRUE) (T T) (T F)

$- \sum_i \left| \frac{A_i}{A} - \frac{X_i}{X} \right| = -\|p_A - p_X\|_{L_1}$

$- \|p_A - p_X\|_2^2$

Problem : ?

A_i are censored data really

↳ We observe only A_i s.t. A_i charge > 0

$\sum_{A_i > 0} A_i \log(X_i + \varepsilon)$ One simple calculation

$$\frac{e^{-\|p_A - p_X\|}}{\sum_S e^{-\|p_A - p_B\|}}$$

S : obtainable histograms with a given n° of molecules (diff. granularity)

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