Existing metrics for set-similarity

- Average $\rho_A(S_i, S_j) = \frac{1}{|S_i||S_j|} \sum_{c_k \in S_i} \sum_{c_l \in S_j} \delta(c_k, c_l)$
  - Violates properties (ii), (iii) and (iv)
- Maximum $\rho_M(S_i, S_j) = \max_{c_k \in S_i, c_l \in S_j} \delta(c_k, c_l)$
  - Weakly satisfies (ii)
- Average of Maximums $\rho_H(S_i, S_j) =$

$$\max \left\{ \frac{1}{|S_i|} \sum_{c_k \in S_i} \max_{c_l \in S_j} \delta(c_k, c_l), \frac{1}{|S_j|} \sum_{c_l \in S_j} \max_{c_k \in S_j} \delta(c_k, c_l) \right\}$$

  - Fails properties (ii), (iii) and (iv)