Supplementary figure 2

Function RIT(X, S, p, ϕ, α)
Input: data X, set $S \subset X$, p-values p, test ϕ, level α
foreach $X_j \notin S$ **do**
  foreach $X_i \in S$ **do**
    Let $p_{ij} = \phi(X_i, X_j)$;
  end
  Let $p_j = |S| \min_i \max\{p_i, p_{ij}\}$; `// Suppl. Theorem 4`
end
Let $p_j = |X \setminus S| p_j / r_j$; `// Suppl. Lemma 3`
Let $S' = \{X_j \notin S : p_j \leq \alpha\}$;
if $S' \neq \emptyset$ **then**
  $p = \text{RIT}(X \setminus S, S', p, \phi, \alpha)$;
end
return p ; `// Result is modified vector p`

Recursive Independence Test with FDR control. Assumes ϕ returns p-values. Start with RIT$(X \cup \{Y\}, \{Y\}, 0, \phi, \alpha)$. Here p is a vector of p-values corresponding to the element of X.