

Supplementary Material: Four-Set Hypergraphlets for Characterization of Directed Hypergraphs

A COUNT DISTRIBUTIONS

We analyze the occurrence distributions of DHGs in real-world and randomized directed hypergraphs (DHs). To ensure statistical significance, we generate ten randomized DHs and report the average counts. As shown in Figure 1 5, the counts of DHGs in real-world directed hypergraphs are distinct from those in randomized directed hypergraphs.

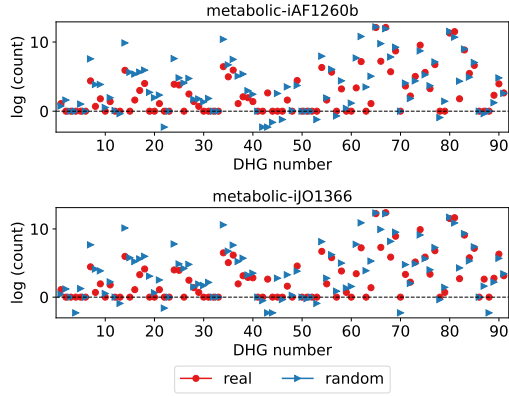


Figure 1: [Metabolic datasets] Log counts of DHGs in both real-world and randomized directed hypergraphs.

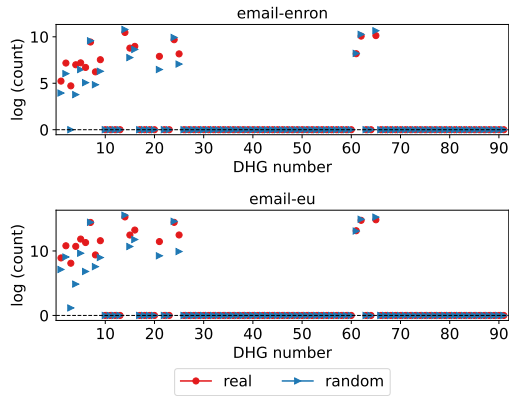


Figure 2: [Email datasets] Log counts of DHGs in both real-world and randomized directed hypergraphs.

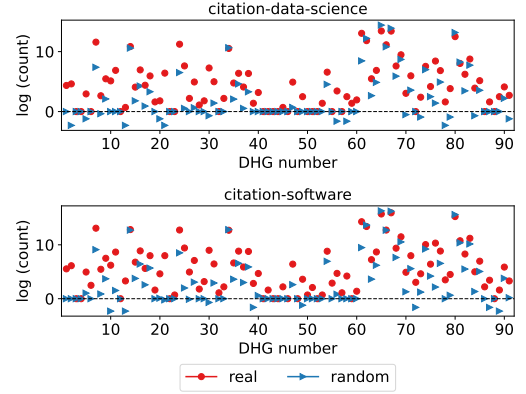


Figure 3: [Citation datasets] Log counts of DHGs in both real-world and randomized directed hypergraphs.

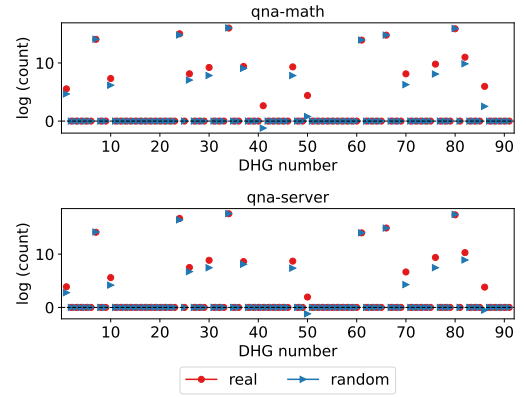


Figure 4: [Qna datasets] Log counts of DHGs in both real-world and randomized directed hypergraphs.

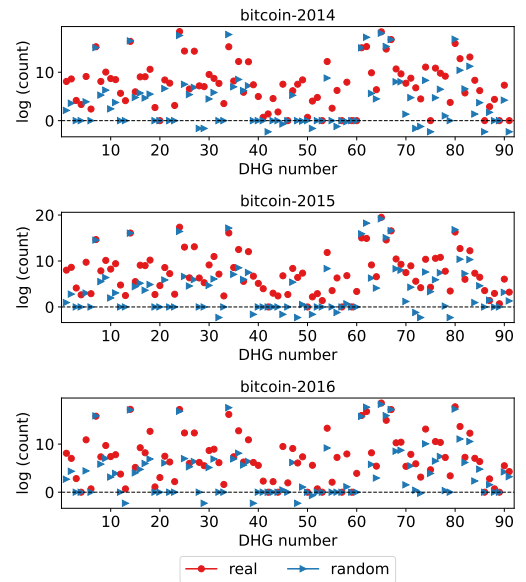


Figure 5: [Bitcoin datasets] Log counts of DHGs in both real-world and randomized directed hypergraphs.