PGR-crowd gene, phenotype, relation user (gene), item (phenotype), rating 22933. HP:0002637. -1 22933. HP:0002637. -1 9939, HP:0000252, 1 9939, HP:0000252, 2 9343. HP:0005321. -1 9343. HP:0005321. -1 9939, HP:0000252, 1 relation extraction MovieLens-1m user (person), item (movie), rating 267, Trial by Jury (1994), 3 3055, Traveller (1997), 5

5811, Fear of a Black Hat (1993), 2

recommender systems