Part I

Sparql Endpoint: https://sparql.rhea-db.org/sparql

1 Graphs research

1.1 Queries for graphs and results

```
graph all_graphs_included.sparql: 1 results
graph graphs_with_a_triple_min.sparql: 4 results
graph graphs_with_rdf_type.sparql: 4 results
The graphs_with_rdf_type.sparql returns more results (4)
```

1.2 List of graphs selected

```
graph 1 - https://sparql.rhea-db.org/rhea
graph 2 - http://sparql.rhea-db.org/chebi
graph 3 - https://sparql.rhea-db.org/.well-known/sparql-examples
graph 4 - https://sparql.rhea-db.org/.well-known/void
```

2 Querying https://sparql.rhea-db.org/sparql

2.1 Results by query

```
Query class.sparql - distinct results : 34
Query property.sparql - distinct results : 119
Query label_class.sparql - distinct results : 15
Query label_property.sparql - distinct results : 0
Query subclass.sparql - distinct results : 159481
Query subproperty.sparql - distinct results : 31
Query property_domain.sparql - distinct results : 0
Query property_range.sparql - distinct results : 0
Query indi_range_property.sparql - distinct results : 16
Query indi_domain_property.sparql - distinct results : 67
Query entity_type.sparql - distinct results : 271161
Total of unique results found 430924 on https://sparql.rhea-db.org/sparql
```

2.2 Error Log

No errors encountered during the process

• Number of errors : 0

3 Process before indexation

3.1 JSON results conversion after distinct operation

All string results were converted into valid json results

4 Partition in separated queries

The volume of 430924 results does not need query partition

5 Elastic Search Indexation

Index 'class' already exits and will be completed Storing 34 results in index 'class' took 0.163 secs

Index 'property' already exits and will be completed Storing 119 results in index 'property' took 0.031 secs

Index 'label_class' already exits and will be completed Storing 15 results in index 'label_class' took 0.031 secs

Index 'subclass' already exits and will be completed Storing 159481 results in index 'subclass' took 60.615 secs

Index 'subproperty' already exits and will be completed Storing 31 results in index 'subproperty' took 0.031 secs

Index 'indi_range_property' already exits and will be completed Storing 16 results in index 'indi_range_property' took 0.031 secs

Index 'indi_domain_property' already exits and will be completed Storing 67 results in index 'indi_domain_property' took 0.016 secs

Query subpartition 1 for entity_type Total of results to store: 271161

Partition size: 200000

Number of subpartitions: 2

Timesleep: 2 secs

Index 'entity_type' already exits and will be completed Storing 200000 results in index 'entity_type' took 59.046 secs

Index 'entity_type' already exits and will be completed Storing 71161 results in index 'entity type' took 8.524 secs

6 Getting results and indexing times

Getting results for https://sparql.rhea-db.org/sparql took 3 min (198.65 secs) Indexation for https://sparql.rhea-db.org/sparql took 2 min (138.371 secs)