

This document was generated using iDISK version 1.0.0. We here provide a few sample Cypher queries for the iDISK Neo4j implementation. If you are new to Cypher, see Neo4j's [documentation](#) first.

The Neo4j Browser is very good at completing queries and suggesting possible values based on the actual database schema. For example, try typing "MATCH (n:SDSI {})". You should get a dropdown menu showing all the available attributes of the SDSI nodes.

Which supplement ingredients are the most commonly included in supplement products?

```
MATCH (i:SDSI)-[r:has_ingredient]-(p:DSP)
RETURN i.name AS IngredientName, COUNT(r) AS NumProducts
ORDER BY COUNT(r) DESC
```

| "IngredientName" | "NumProducts" |
|------------------|---------------|
| "VITAMINS" | 26781 |
| "Vitamin B12" | 15459 |
| "MAGNESIUM" | 14924 |
| "Zinc" | 13815 |
| "thiamin" | 11808 |

Which supplement products have the greatest number of ingredients?

```
MATCH (i:SDSI)-[r:has_ingredient]-(p:DSP)
RETURN p.name AS ProductName, p.ui AS ProductUI, COUNT(r) AS NumIngredients
ORDER BY COUNT(r) DESC
```

| "ProductName" | "ProductUI" | "NumIngredients" |
|--|-------------|------------------|
| "druckerlabs - intraKID(R) All Natural Raspberry Flavor" | "DC0034308" | 167 |
| "vitabase - VitaComplete" | "DC0051289" | 155 |
| "Source Of Life Gold Tablets" | "DC0471848" | 149 |
| "Source Of Life Gold Mini-Tabs" | "DC0471846" | 149 |
| "Source Of Life Gold Capsules" | "DC0471844" | 149 |
| "Source Of Life Gold Chewables" | "DC0471832" | 149 |

We can further investigate the ingredients that are present in the above products. Let's choose "Source Of Life Gold Tablets" (DC0471848, always try to look up specific concepts using their UIs if possible).

```
MATCH (p:DSP)-[:has_ingredient]->(ds:SDSI)
WHERE p.ui = 'DC0471848'
RETURN ds.name AS IngredientName, ds.ui as IngredientUI
LIMIT 7
```

| "IngredientName" | "IngredientUI" |
|--------------------------|----------------|
| "Alaria <Phaeophyceae>" | "DC0165301" |
| "Glutathione, NOS" | "DC0160822" |
| "Vitamin K>2<" | "DC0162001" |
| "vitamin b 2" | "DC0161367" |
| "thiamin" | "DC0156368" |
| "Coffea canephora Plant" | "DC0162080" |

Which supplement ingredients have a moderate to severe interaction with aspirin?

```
// The following two lines just find the "Aspirin" concept.
MATCH (rx:PD)-[:has_synonym]->(rxa:PD_ATOM)
WHERE rxa.name =~ "[Aa]spirin"
MATCH (i:SDSI)-[:interacts_with]->(rx)
WHERE r.severity = "High" OR r.severity = "Moderate"
RETURN i.name AS Supplement, i.ui AS Supplement_UI, rx.name AS
InteractsWithDrug, r.severity AS Severity
```

| "Supplement" | "Supplement_UI" | "InteractsWithDrug" | "Severity" |
|---------------------------|-----------------|---------------------|------------|
| "Beers" | "DC0155548" | "aspirins" | "Moderate" |
| "Wintergreen preparation" | "DC0156455" | "aspirins" | "Moderate" |
| "Bismuth" | "DC0155552" | "aspirins" | "Moderate" |
| "Wines" | "DC0161614" | "aspirins" | "High" |
| "Rosehips" | "DC0155680" | "aspirins" | "Moderate" |
| "Tamarind Spice" | "DC0156357" | "aspirins" | "High" |

It is perhaps more natural (and fun!) to output the results as a visual graph. Below, the red nodes are ingredients and the green nodes are therapeutic classes.

N.B. The following query returns much more than what is shown below. Some manual cleanup is necessary to make it visually appealing.

```
MATCH (ds:SDSI)-[:has_therapeutic_class*1..2]-(tc:TC)
RETURN ds, tc LIMIT 30
```

