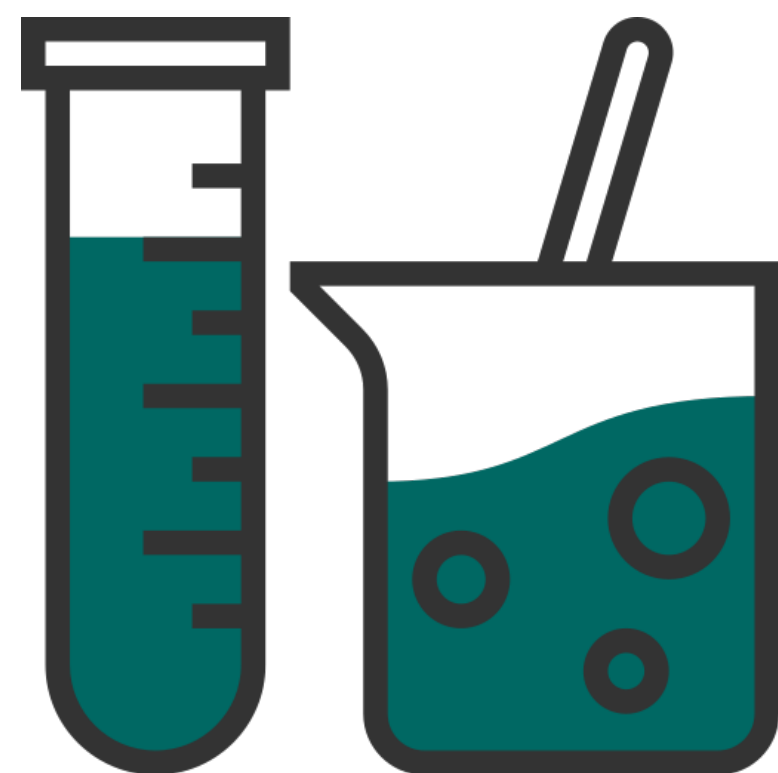


COSMETICS IN EVERY WAY

Presented by
Wei-Fan Chen, Hsin-Yu Chang

Introduction



Chemical Compounds



Cosmetic Products



Customers

Roadmap

Data Acquisition

Crawl pages from source website and Data Cleaning
selenium / BeautifulSoup / pandas

Ontology Mapping

Design our ontology of cosmetic products and compounds

Entity Resolution

Solve deduplication / entity linking / product similarity challenges

User Interface

Jena + Flask + Vue and User cases guidelines

Data Sources

cosdna.com

cosDNA

Mobile

Switch language

Sign up

Login

Home

Product Search

Ingredients

Analyze Cosmetics

Ingredients Market

Handmade Soap

Forum

LA MER The eye concentrate

C

Posted on 2020-03-05 , Data Source: Official Website

😊 Good

😊 Good but expensive

😊 Fair 1

😞 Poor

😞 Uncomfortable

1 reviews

Ingredient	Function	Acne	Irritant	Safety
Algae Extract	Moisturizer, Emollient			1
Water	Solvent			1
Dimethicone	Emollient	1	0	1-3
Isododecane	Solvent, Fragrance			1
Glycerin	Solvent, Moisturizer	0	0	1-2
Hydrogenated polyisobutene	Emollient			1
Trisiloxane	Emollient			2
Caprylic/capric/myristic/stearic triglyceride	Emollient			1
VINYL DIMETHICONE/METHICONE SILSESQUIOXANE CROSSPOLYMER	Viscosity Control			1

PubChem

About

COMPOUND SUMMARY

Water

PubChem CID:

962

Structure:

2D

[Find Similar Structures](#)

Chemical Safety:

[Laboratory Chemical Safety Summary \(LCSS\) Datasheet](#)

Molecular Formula:

H₂O

Synonyms:

water

7732-18-5

Dihydrogen oxide

Distilled water

Purified water

More...

Molecular Weight:

18.015 g/mol

Date:

Modify:

Create:

Share

Tweet

Email

Cite

Download

CONTENTS

- Title and Summary
- 1 Structures
- 2 Names and Identifiers
- 3 Chemical and Physical Properties
- 4 Spectral Information
- 5 Related Records
- 6 Chemical Vendors
- 7 Drug and Medication Information
- 8 Pharmacology and Biochemistry
- 9 Use and Manufacturing
- 10 Safety and Hazards
- 11 Toxicity
- 12 Literature
- 13 Patents
- 14 Biomolecular Interactions and Pathways
- 15 Biological Test Results

pubchem.com

Product information

Search

SEPHORA

Hi, Beautiful

Sign In or Register

♡

🛒

SHOP

NEW

BRANDS

GIFTS

SALE

QUIZZES

COMMUNITY

Skincare > Eye Care > Eye Creams & Treatments



Roll over or click image to zoom in



LA MER
The Eye Concentrate

SIZE 0.5 oz/ 15 mL • ITEM 2341600

★★★★★ 23 reviews | ❤️ 3.8K loves

\$235.00

FREE SHIPPING

Pay in 4 interest-free
payments of \$58.75
Klarna.

1

ADD TO BASKET

ADD TO LOVES

Find in store

Enter ZIP/Postal code

Details How to Use Ingredients About the Brand Shipping & Returns

-Clarity Ferment: Helps brighten and reduce the look of dark circles, lines, and wrinkles for a healthy look of vitality and wellness.
-Concentrated Miracle Broth: Delivers essential energy and hydration to the eye area.
-Lime Tea Concentrate: Helps defend against damage from environmental aggressors and pollution.

Algae (Seaweed) Extract, Water\Aqua\Eau, Dimethicone, Isododecane, Glycerin, Hydrogenated Polyisobutene, Trisiloxane, Caprylic/Capric/Myristic/Stearic Triglyceride, Vinyl Dimethicone/Methicone Silsesquioxane Crosspolymer, Caprylic/Capric Triglyceride, Sea Salt\Maris Sal\Sel Marin, Yeast Extract\Faex\Extrait De Levure, Helichrysum Arenarium (Everlasting) Extract, Sesamum Indicum (Sesame) Seed Oil, Medicago Sativa (Alfalfa) Seed Powder, Helianthus Annuus (Sunflower) Seedcake, Prunus Amygdalus Dulcis (Sweet Almond) Seed Meal, Eucalyptus Globulus (Eucalyptus) Leaf Oil, Sodium Gluconate, Copper Gluconate, Calcium Gluconate, Magnesium Gluconate, Zinc Gluconate, Tocopheryl Succinate, Niacin, Sesamum Indicum (Sesame) Seed Powder,

Ingredient

review

sephora.com

linreve
ROUGE ROOKIE 1
Eye Color Brown
Hair color Blonde
Skin Tone Medium
Skin Type Dry

★★★★★

The best

I have trying many many eye creams for years, at the point that I don't believe in eye creams, I just put the same that I use on my face, but every time I use this one I felt in love, I only buy it once a year because the price, when I it is gone like I said I use the same I'm using on my face, I'm 36 years old and I don't have any lines under my eyes, I have been using this cream for 4 years, also I use...[read more](#)

✓ Recommends this product

NOT HELPFUL (0)

HELPFUL (6)

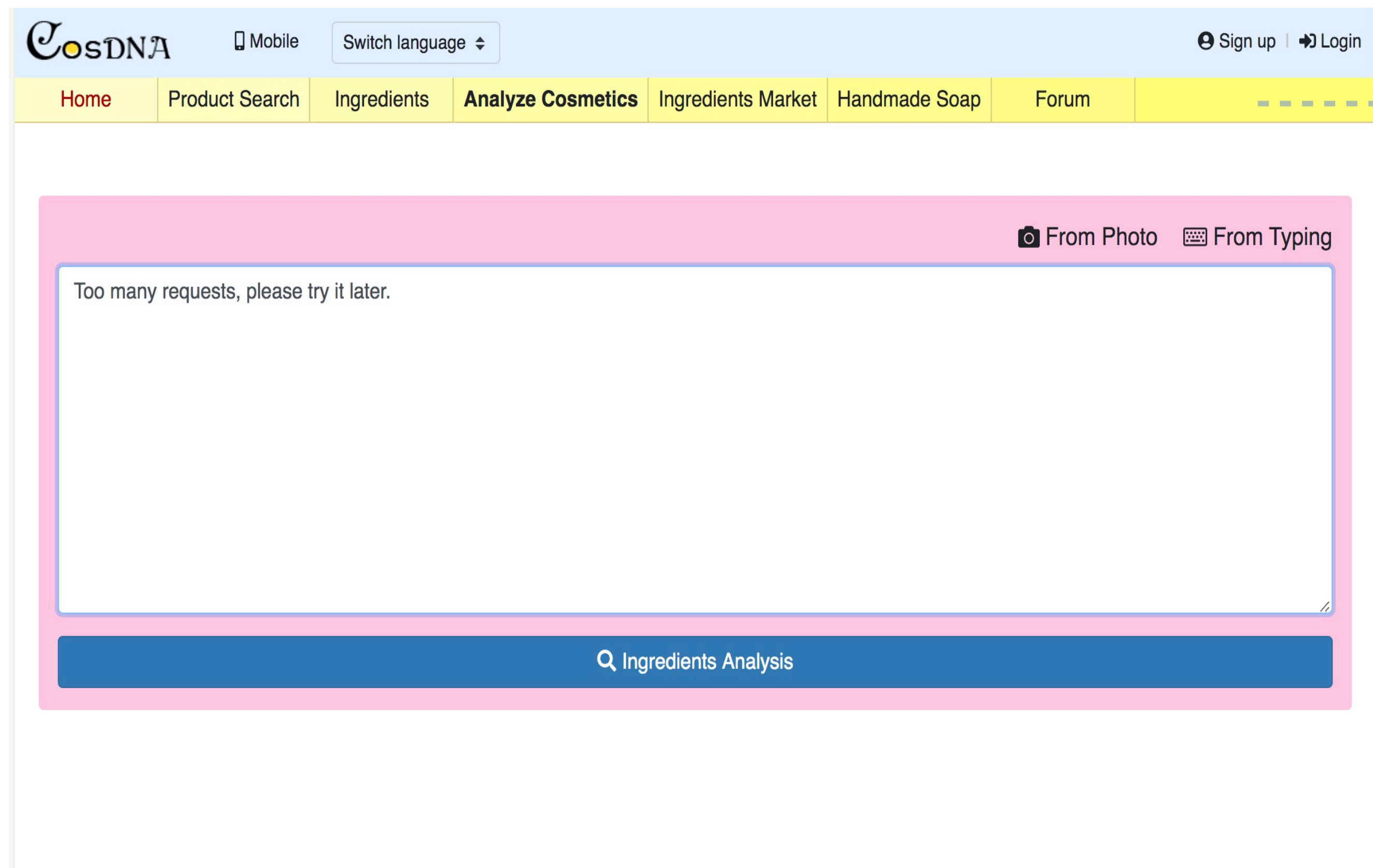
PariaM
ROUGE ROOKIE 1
Age 25-34
Eye Color Brown
Hair color Brunette
Skin Tone Light

★★★★★

got a sample and used it for a month, saw no difference in fine lines or darkness. kind of disappointed.maybe you have to use it longer ? if you use too much it will sting the eye. smells like cucumber, but that could be the culprit for the stinging.

Ingredients attributes

Challenge



It happens when visits the website too often

Set an endpoint of each crawler

Set a random time between each request

Data Cleaning

Description of
key ingredients

Details

How to Use

Ingredients

About the Brand

Shipping & Returns

-Coffee: Found in Ethiopia, its energizing properties help wake up, refresh, and restore radiance to tired skin.

Water, Methyl Trimethicone, Butylene Glycol, Peg-100 Stearate, Dimethicone, Cetyl Ricinoleate, Silica, Olea Europaea (Olive) Fruit Oil, Glycerin, Behenyl Alcohol, Cucumis Sativus (Cucumber) Fruit Extract, Panax Ginseng (Ginseng) Root Extract, Castanea Sativa (Chestnut) Seed Extract, Camellia Sinensis (Green Tea) Leaf Extract, Cordyceps Sinensis Extract, Magnolia Officinalis Bark Extract, Pyrus Malus (Apple) Fruit Extract, Scutellaria Baicalensis Root Extract, Pantethine, Panthenol, Caprylic/Capric Triglyceride, Butyrospermum Parkii (Shea Butter), Caffeine, Coleus Barbatum Extract, Yeast Extract\Faex\Extrait De Levure, Folic Acid, Hydrogenated Lecithin, Jojoba Wax Peg-120 Esters, Biotin, Tribehenin, Myristyl Alcohol, Palmitoyl Tetrapeptide-7, Trehalose, Sodium Hyaluronate, Ascorbyl Tocopheryl Maleate, Hesperidin Methyl Chalcone, Sodium Sulfite, Sodium Metabisulfite, Steareth-20, Dipeptide-2, Ethylhexylglycerin, Carbomer, Tromethamine, Sorbic Acid, Chlorphenesin, Phenoxyethanol, Mica, Titanium Dioxide (Ci 77891), Iron Oxides (Ci 77491, Ci 77492, Ci 77499).

Please be aware that ingredient lists may change or vary from time to time. Please refer to the ingredient list on the product package you receive for the most up-to-date list of ingredients.

Clean at Sephora products are formulated without:

Sulfates—SLS + SLES, Parabens, Formaldehydes, Formaldehyde-releasing agents, Phthalates, Mineral Oil, Retinyl Palmitate, Oxybenzone, Coal Tar, Hydroquinone, Triclosan, Triclocarban, Undisclosed synthetic fragrances (Products can be formulated with disclosed synthetic fragrances that meet the following two criteria: (1) the synthetic fragrances do not include any of the ingredients listed in numbers 1 through 12 above and (2) the synthetic fragrances are at a concentration below 1% of the total formula). The

Find the patterns of these irrelevant text
Get rid of irrelevant information
Input the pure ingredient text to cosdna.com
to get separated ingredients

Reminder

Ingredients are
not included

Ingredients of
the product

Ontology

```
cosmetic.ttl
Volumes > HsinYu > Documents > INF558 > INF558_project > sephora > output > cosmetic.ttl
1 @prefix foaf: <http://xmlns.com/foaf/0.1/> .
2 @prefix myns: <http://inf558.org/chemcosmetic/> .
3 @prefix ns1: <http://www.w3.org/2002/07/owl#> .
4 @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
5 @prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
6 @prefix schema: <http://schema.org/> .
7 @prefix xml: <http://www.w3.org/XML/1998/namespace> .
8 @prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
9
10 myns:acne a schema:Property ;
11     rdfs:label "acne" ;
12     schema:domainIncludes myns:Compound ;
13     schema:rangeIncludes xsd:integer .
14
15 myns:conflictWith a schema:Property ;
16     rdfs:label "conflict with" ;
17     schema:domainIncludes myns:ChemGroup ;
18     schema:rangeIncludes myns:ChemGroup .
19
20 myns:formula a schema:Property ;
21     rdfs:label "formula" ;
22     schema:domainIncludes myns:Compound ;
23     schema:rangeIncludes xsd:string .
24
25 myns:groupOf a schema:Property ;
26     rdfs:label "is group of" ;
27     schema:domainIncludes myns:Compound ;
28     schema:rangeIncludes myns:ChemGroup .
29
30 myns:hasAttribute a schema:Property ;
31     rdfs:label "has attribute" ;
32     schema:domainIncludes myns:Compound ;
33     schema:rangeIncludes myns:Safety .
34
35 myns:hasFunction a schema:Property ;
```

Sephora

Cosmetic Product

- numOfLove
- numOfReview
- hasIngredient
- madeBy
- category
- size/price pair

Ingredient

Brand

Category

Size Price Pair

- price
- size

Ingredient

chemGroup

chemGroup

CosDNA
PubChem

- isGroupOf
- formula
- hasAttribute
- hasFunction
- irritant
- safety
- acne
- synonym

conflicts

Entity Resolution



Product Duplication

Delete the same product with different/same names/ids

Skincare > Masks > Sheet Masks



Roll over or click image to zoom in

Skincare > Masks > Face Masks



Roll over or click image to zoom in

SEPHORA COLLECTION

Face Mask - Green Tea - Mattifying

SIZE 1 Mask • ITEM 1765007

★★★★★ 103 reviews | ❤️ 3.3K loves

exclusive

\$6.00

SPEND \$50 FOR FREE SHIPPING

Pay in 4 interest-free payments of \$1.50

Klarna. ⓘ

TYPE: Green Tea - Mattifying & anti-blemish

Buy 3 Face Masks, Get 1 Free

Online and in store. No promo code needed.

SEE DETAILS

SEPHORA COLLECTION

Face Mask

SIZE 1 Mask • ITEM 1765007

★★★★★ 1K reviews | ❤️ 121.1K loves

exclusive

\$6.00

SPEND \$50 FOR FREE SHIPPING

Pay in 4 interest-free payments of \$1.50

Klarna. ⓘ

TYPE: Green Tea - Mattifying & anti-blemish

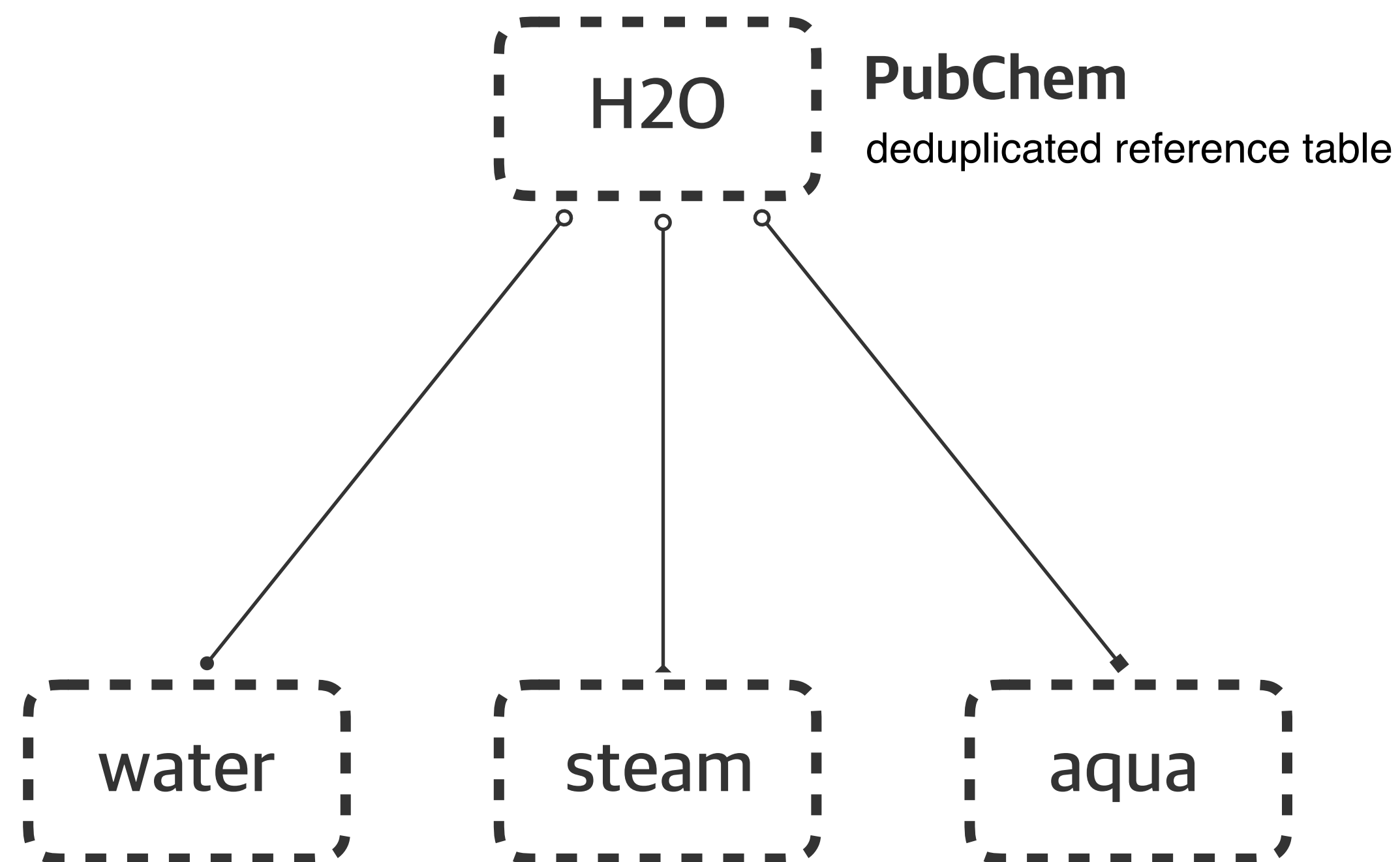
Standard size

Entity Resolution

?

Entity Linking Problem

match noisy compounds names
across different products.



Similar Product



Product Similarity

Link products based on their compounds' functions and customer reviews.

A product has

Function Set

{ Skin Protecting, Solvent, Whitening . . . }

based on its compounds functions

other product's function set

Jaccard similarity

Age Vector

Skin Type Vector

Cosine similarity

other product's vectors

value = average stars of **Over 54** customers

13-17	18-24	25-34	35-44	44-54	Over 54
-------	-------	-------	-------	-------	---------

Combination	Dry	Normal	Oily
-------------	-----	--------	------

value = average stars of **Combination** type customers

Structure



Knowledge Graph
Database

sparql query



Backend API

axios.get



Frontend


Use case 1

Basic Search

already have product in mind
find a product by name

ProductAdvanced

The Water Cream



Tatcha

The Water Cream

Add to Collection

Category

Moisturizers

Price

starts from \$20

Sephora Link

[Visit Sephora!](#)

Size

starts from 3.4e-01 oz

Similar products

Water Bank Moisture Cream

4.5 stars

Water Bank Hydro Gel

4.5 stars

What is in it ...

Titanium Dioxide	Acne: 0 Irritant: 0 Safety: 1
Titanium Dioxide	Acne: 0 Irritant: 0 Safety: 3
Rosa Multiflora Fruit Extract	Acne: Irritant: Safety: 1
Sodium Chloride	Acne: Irritant: Safety: 1
Disodium Edta	Acne: Irritant: Safety: 1
Titanium Dioxide	Acne: 0 Irritant: 0 Safety: 3
Dimethicone	Acne: 1 Irritant: 0 Safety: 1
Pistacia Lentiscus Gum	Acne: Irritant: Safety: 1

Product Info

Similar products

Compound list

Use case 2

Advanced Search

don't have product in mind
filter products based on your needs

filter on
Categories / Brand / Acne / Irritant /
Function / Avoid / Price

link to product page
after click

Product

Advanced

Categories

Moisturizers × Face Oils ×

Brand

Choose brand

Acne

1 2 3 4 5

Price

Functions

Choose Category

Avoid

Fragrance × Preservative ×

Irritant

1 2 3 4 5

☐ Fit my collections!

214 results

The Water Cream

Ultra Repair® Cream Intense Hydration

Virgin Marula Antioxidant Face Oil

Luna Retinol Sleeping Night Oil

100 percent Pure Argan Oil

Rose Gold Elixir – 24k Gold Infused Beauty Oil

Use case 3

Collection Search

have a collection of products
find products based on your needs
and not conflicting with the collection

Alcoholic

Benzoic

Glycolic

Lactic

Retinol

Alcoholic

My Collection

Product

Advanced

Categories

Moisturizers × Face Oils ×

Brand

Choose brand

Acne

1 2 3 4 5

Price

Functions

Choose Category

Avoid

Fragrance × Preservative ×

Irritant

1 2 3 4 5

☒ Fit my collections!

My collections

Protini™ Polypeptide Moisturizer, The True Cream Moisturizing Bomb

100 results

Skin Dope Argan + Hemp Oil

Extra Repair Moisturizing Balm SPF 25

Virgin Marula Antioxidant Face Oil Mini

Squalane Facial Oil

Cicapair™ Tiger Grass Calming Gel Cream

Results should not have compounds with

VitaminC

Retinol

Salicylic