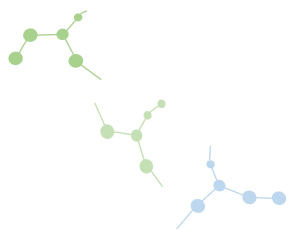
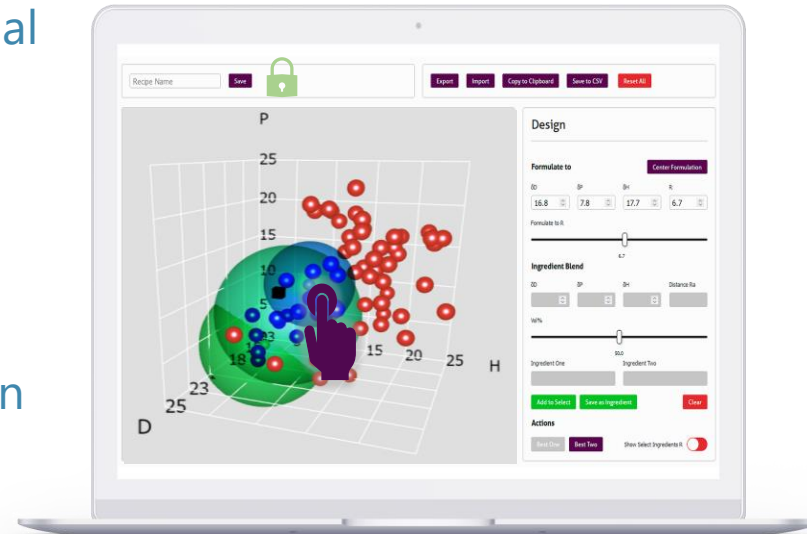
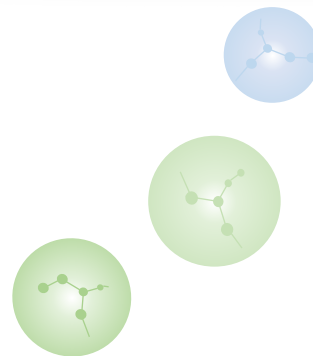


Web-apps PrediMatch and PrediMulsion: Science-based Formulation R&D

- Science-based formulation R&D of coatings, inks, personal and home care, ... = simplified via web-apps
- Sustainable use of HSP and HLD from commercial ingredients via our world's largest shared dataset PredictID
- Find 100x faster your matching, replacing and compatibilizing ingredients and narrow down formulation space a 10-fold!



A collage of several web application screenshots. The top left shows a table with columns 'Name', 'ID', 'SP', and 'FI'. The top middle shows a 'Clean Beauty with Citropol®' advertisement. The top right shows a 'Solsperse® W100 Aqueous Dispersant' product page. The bottom left shows a 'Our products' section with images of 'Laundry Detergent' and 'Homecare'. The bottom right shows a 'SIBELCO' advertisement with the text 'We are a global material solutions company' and 'We mine, process and sell industrial minerals at locations worldwide, focused primarily on silica, clays, feldspaths and olivine. We are also leaders in glass recycling.'



Web-apps PrediMatch and PrediMulsion: Sustainable & Collaborative Formulation R&D

- **Collaborative** upgrade; free HSP and HLD of selected ingredients by users, while suppliers adding any ingredient for free (and receive HSP/HLD). Already >16k ingredients, >100 types and >90 suppliers

PrediMatch (Predictive Ingredient Dataset)

Name	Type	Industry	Application	Sup							
Aerosol AT100	0.2	anionic	-1.48	0.13	0.17	0.01	400	VLD exp	Paints & coatings	Solv	
Aerosol B45	-0.4	anionic	-2.30	0.13	0.17	0.01	400	VLD exp	Paints & coatings	Solv	
Cosid HE	-1.8	ethoxylate	-1.20	11.00	0.13	0.15	-0.06	500	VLD exp	Cleaners, Cosmetics, Personal care	BAS

PrediMulsion Emulsion Explorer

Range Name: [] [Lock] [Unlock] [Save] [Reset] [Export/Import] [Settings] [Help]

3D Plot: P (vertical axis), D (depth axis), H (horizontal axis). A green sphere is centered on the plot.

Design Panel:

- Formulation to: [] [] [] [] [] []
- Formulate to: [] [] [] [] [] []
- Ingredient Blend: [] [] [] [] [] []
- Temperature: [] [] [] [] [] []
- Stability: [] [] [] [] [] []
- Buttons: Add to Library, Save as New Emulsion, Copy, New Emulsion, New Test, Show Selected Ingredients

- **Privately** upload your own HSP/HLD datasets

vici My Pre

Upload CSV

Choose File | No file chosen

Upload

Surfactants | Oils

Select dataset: My Surfactants

Search surfactant: []

Name	Surfactant type	Cc	C%	b	k	a	Mix	Density	Source	Industry
Tes surfactant	Non-ionic	0.00	1.50	0.10	0.07	0.01	400	1		

vici PrediMulsion Emulsion Explorer

HLD | Cc | Mix | Design emulsion

Stability Plot: Y-axis (Stability), X-axis (g/100g H₂O). Multiple colored lines represent different surfactant blends.

Design emulsion Panel:

- Temperature: [] [] [] [] [] []
- Stability: [] [] [] [] [] []
- Surfactant Mix: [] [] [] [] [] []
- Oil Blend: [] [] [] [] [] []
- Buttons: Add to Library, Save as New Emulsion, Copy, New Emulsion, New Test, Show Selected Ingredients



Web-app PrediMatch: Sustainable & Collaborative Formulation R&D

- **PrediMatch** calculates **best matching ingredients to formulate** based on **HSP distances to optimize performance**



Web-app PrediMulsion: Science-based Formulation R&D

- By **matching HLD** of oils and surfactants in your emulsion, a **minimal amount and number** is needed to get the **maximum performance!**
- **PrediMulsion** calculates **best matching ingredients** based on **HLD distance**

$$\text{HLD} = F(S) - k \cdot \text{EACN} - \alpha \cdot \Delta T + C_c + f(A)$$

Surfactants

Select datasets
HLD Surfactants PredictID

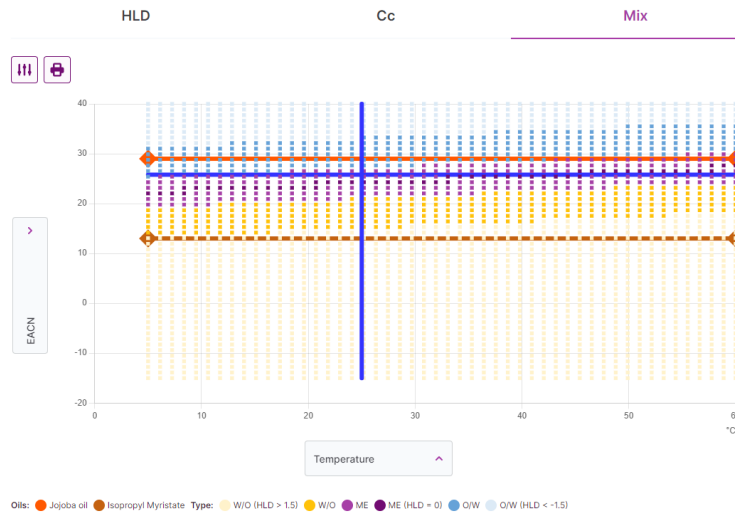
Select surfactant types
-

Name	HLD	Surfactant type	Cc
Tween 85	-2.1	Ethoxylate	2.50
Span 80	0.7	Other	5.00
Aerosol IB45	-6.7	Anionic	-2.30
C12-16EO14	-6.6	Ethoxylate	-2.90
C10Glucoside	-6.0	APG	-1.70
Aerosol AY100	-5.9	Anionic	-1.50
APG8-10	-5.8	APG	-1.50
APG12-14	-5.3	APG	-1.00

Oils

Search
Enter (part of) name, CAS or I

Select industries
-



Design emulsion

HLD = -0.3 ME

Parameters

Temperature (°C): 25

Salinity (g/100mL H₂O): 1.0

Ionic contribution: +0.00

F(Additives): 0.0

Surfactant Mix

Name	Cc effective	Concentration (g:100mL Oil)
Tween 85	1.6	5
Span 80	5.0	11
Surfactant Mix total	3.8	16

Oil Blend

Manual EACN: 7

Name	EACN	Volume ratio
Jojoba oil	29.0	4
Isopropyl Myristate	13.0	1
Oil Blend total	25.8	5

Science-based Formulation via webapps

- Using HSP and HLD maximizes overall performance of formulations
- Everyone can join with a license: privately formulate in minutes via shared and private HSP/HLD datasets, then experimentally validate
- Formulators and ingredient suppliers guiding the shared datasets; together we implement science-based formulation!
- Drastically save on:
 - ✓ Time
 - ✓ Samples
 - ✓ Costs

