

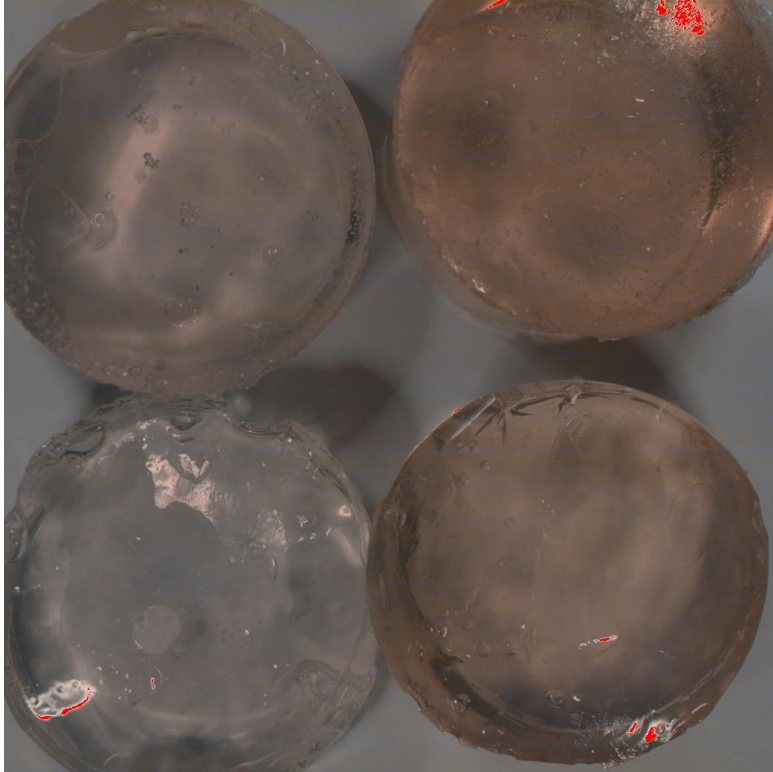
젤라틴 초분광 영상

SNAPSCAN VNIR (470 ~ 900nm)

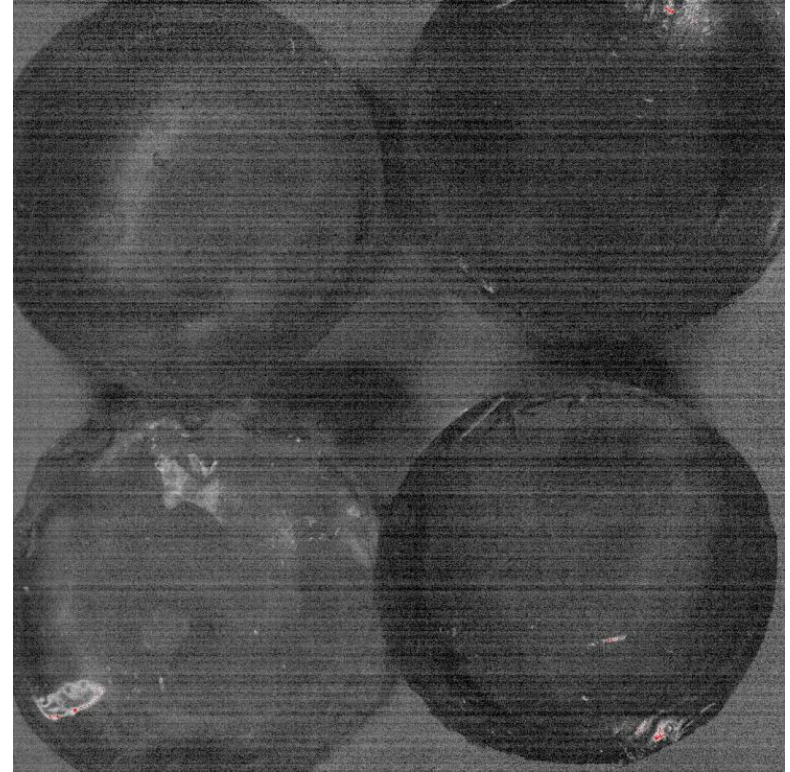
촬영 조건

- 초분광 카메라
 - 모델 : SNAPSCAN VNIR
 - 파장 범위 : 470 ~ 900nm
 - 분광 밴드 : 150개
 - 촬영 해상도
 - : 2048 x 2048 (2x binning)
 - 렌즈
 - : F2.0 / 24mm
 - : 조리개 2.8 설정
- 조명
 - OSRAM 20W 할로겐 램프 4EA
- 소프트웨어
 - 촬영 : HSI Snapscan
 - 분석 : HSI Studio, ENVI

HSI Studio – Rendering image

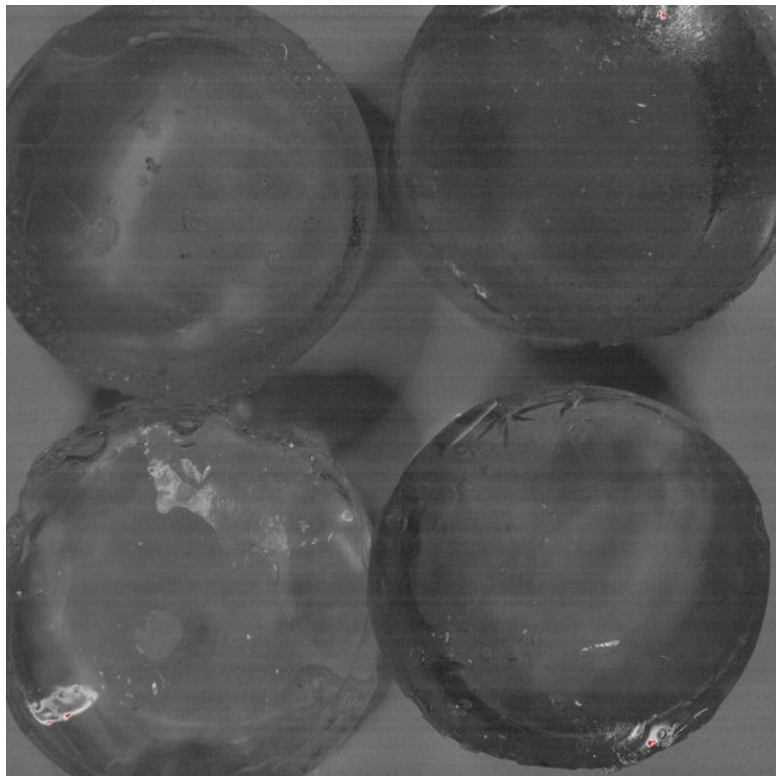


Color

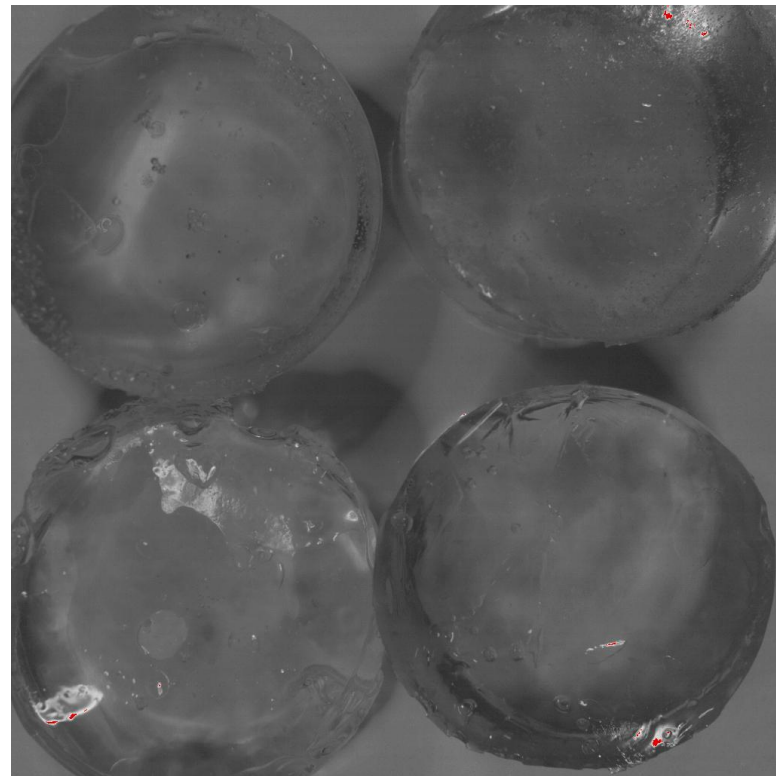


470nm

HSI Studio – Rendering image

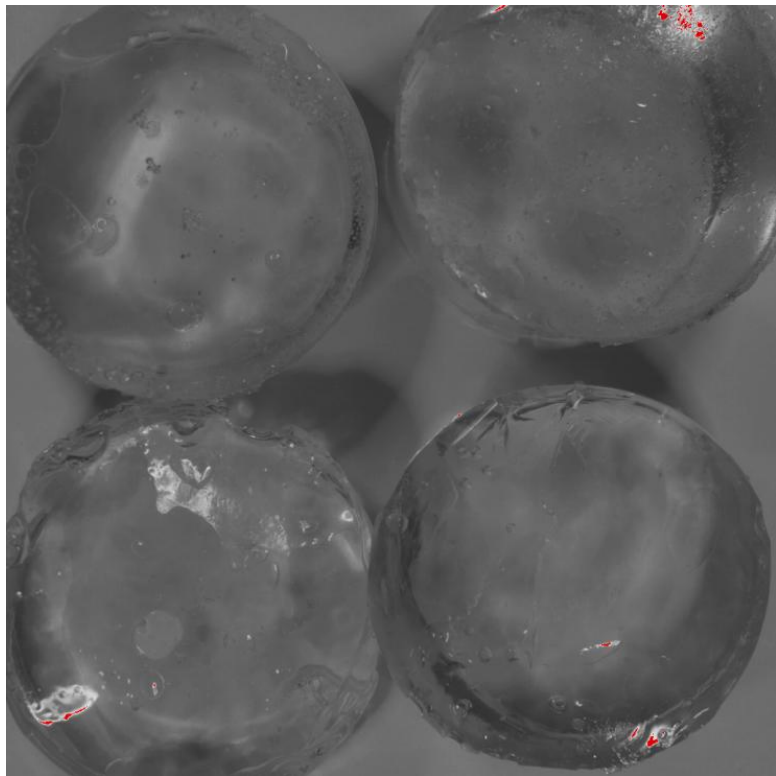


500nm

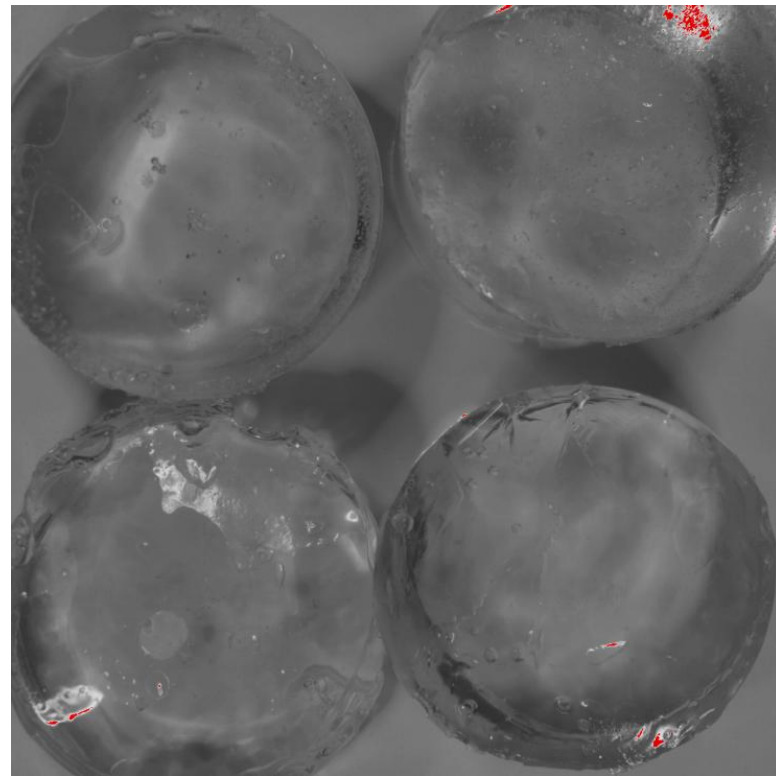


550nm

HSI Studio – Rendering image

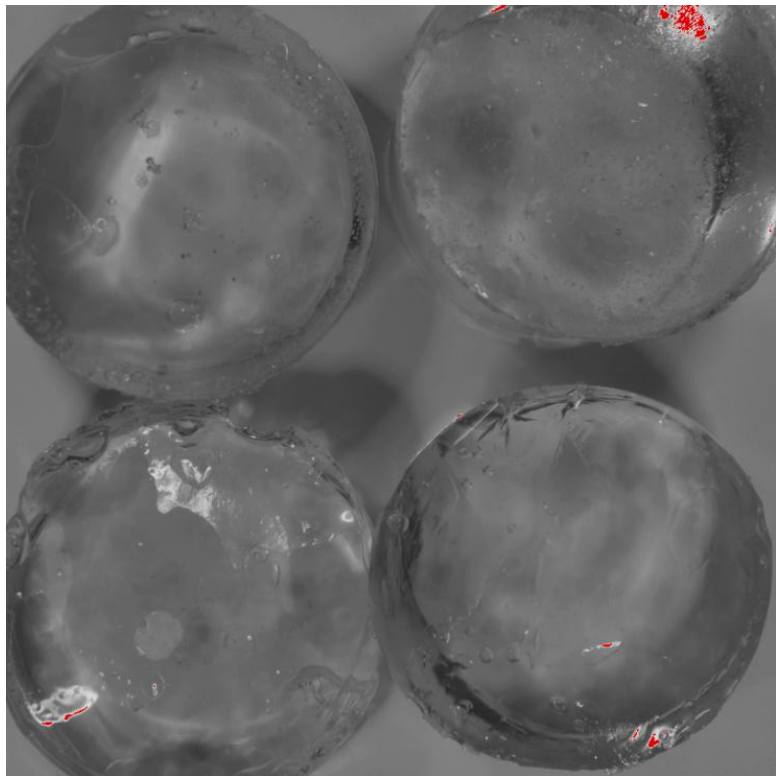


600nm

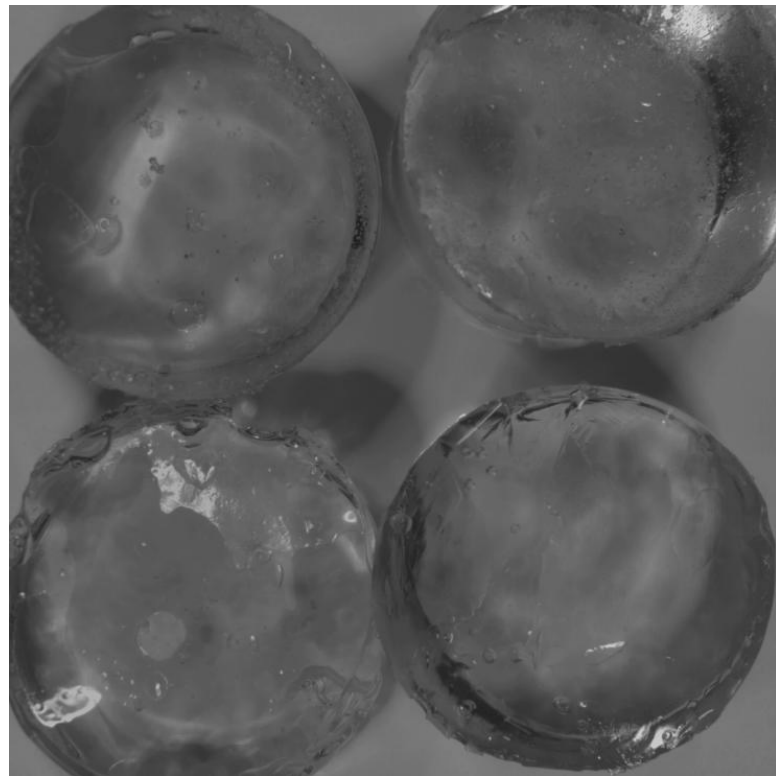


700nm

HSI Studio – Rendering image

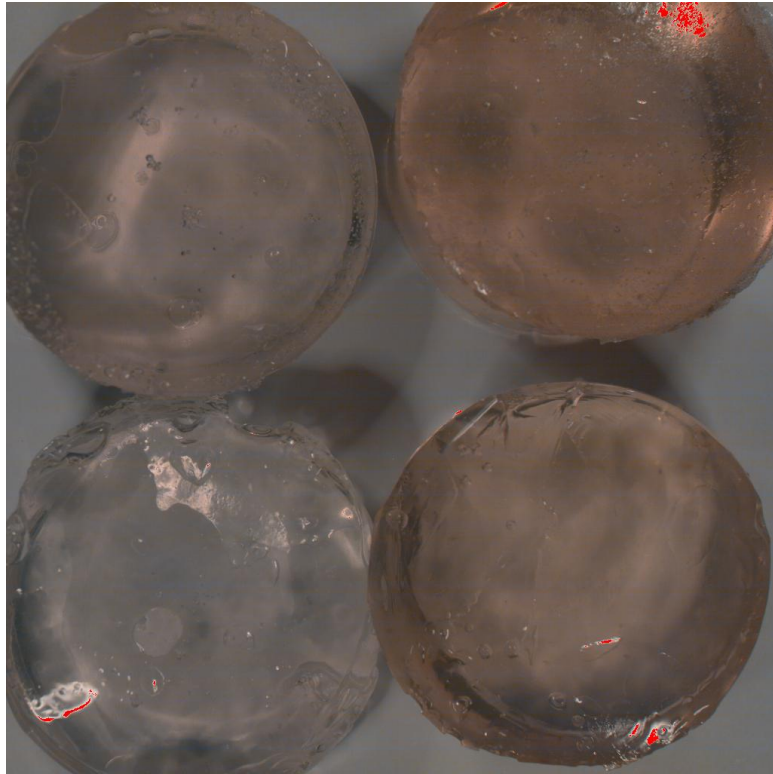


800nm

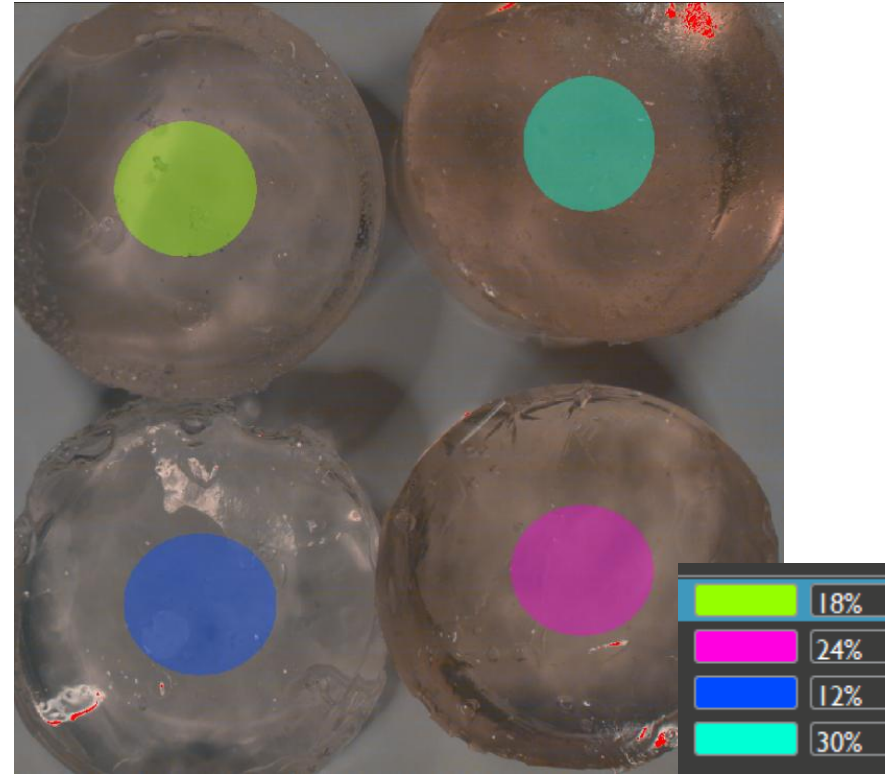


900nm

HSI Studio – Region of Interest

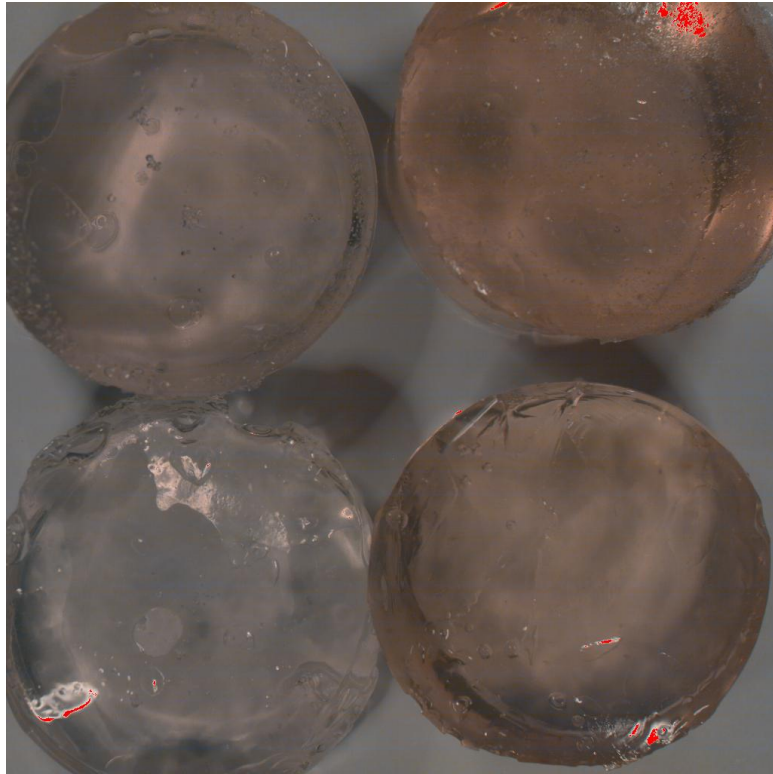


Color

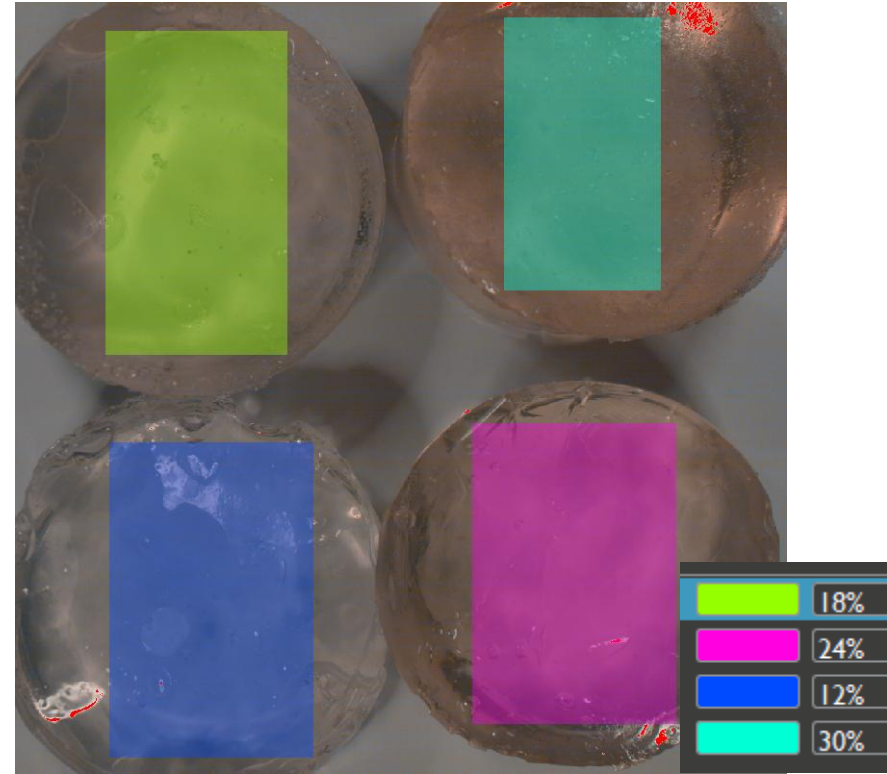


Selection - Circle

HSI Studio – Region of Interest

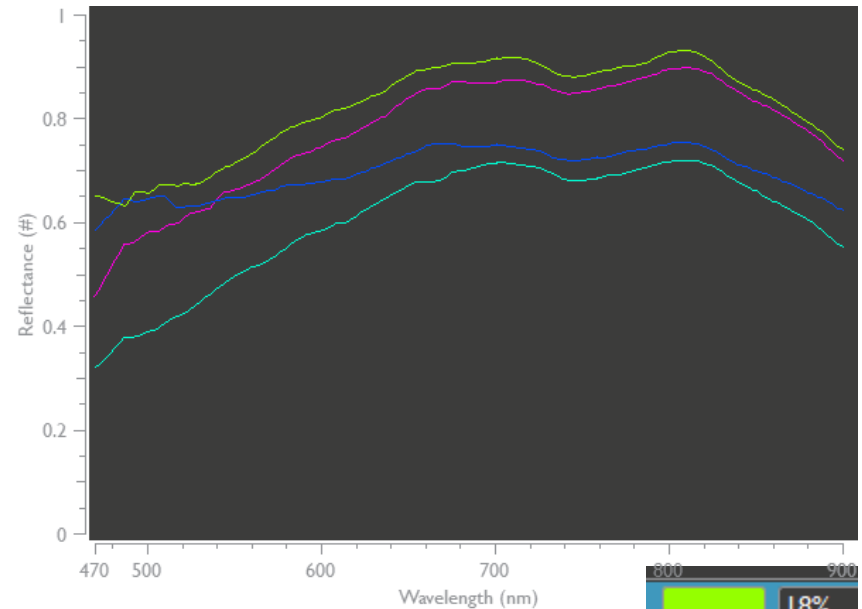
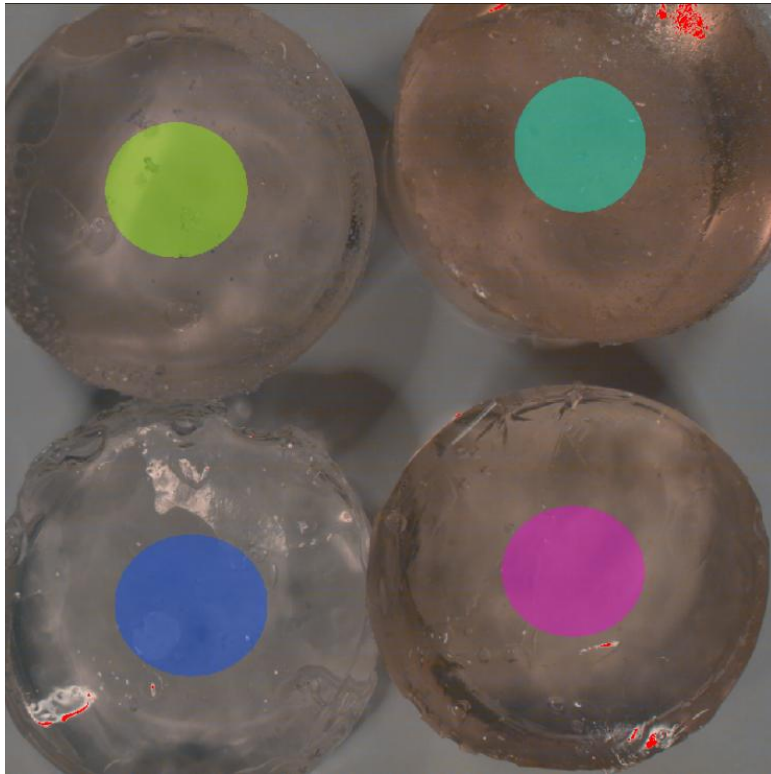


Color



Selection - Rectangle

HSI Studio – Reflectance Spectrum



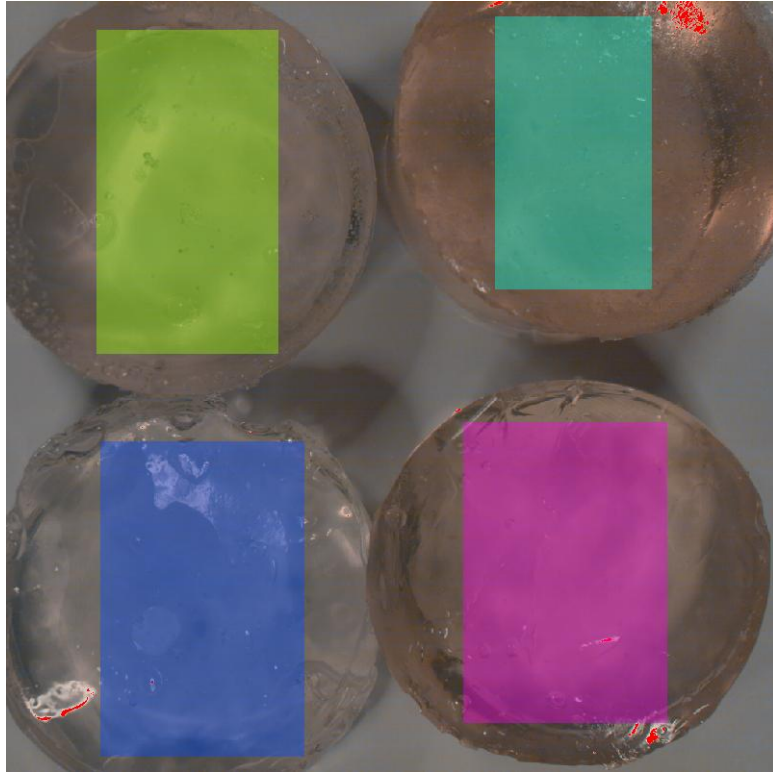
gel_spectrum

Yellow	18%
Red	24%
Green	12%
Blue	30%

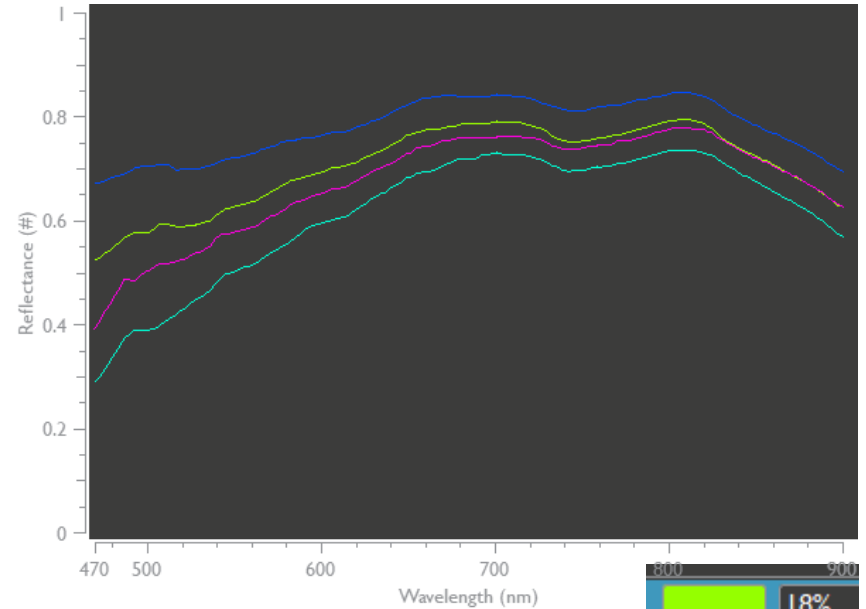
ROI - Circle

Spectrum

HSI Studio – Reflectance Spectrum



ROI - Rectangle

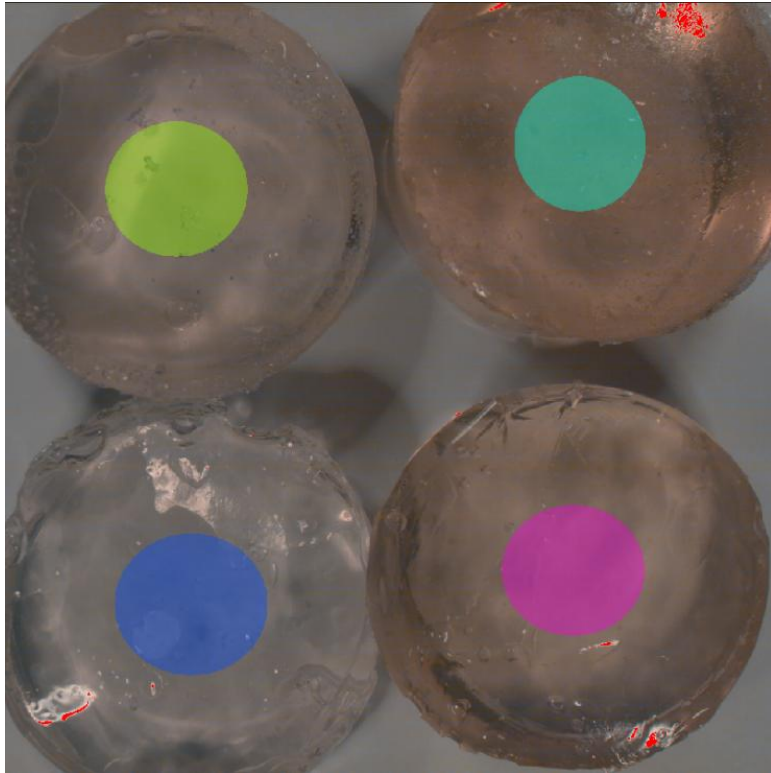


gel_spectrum-1

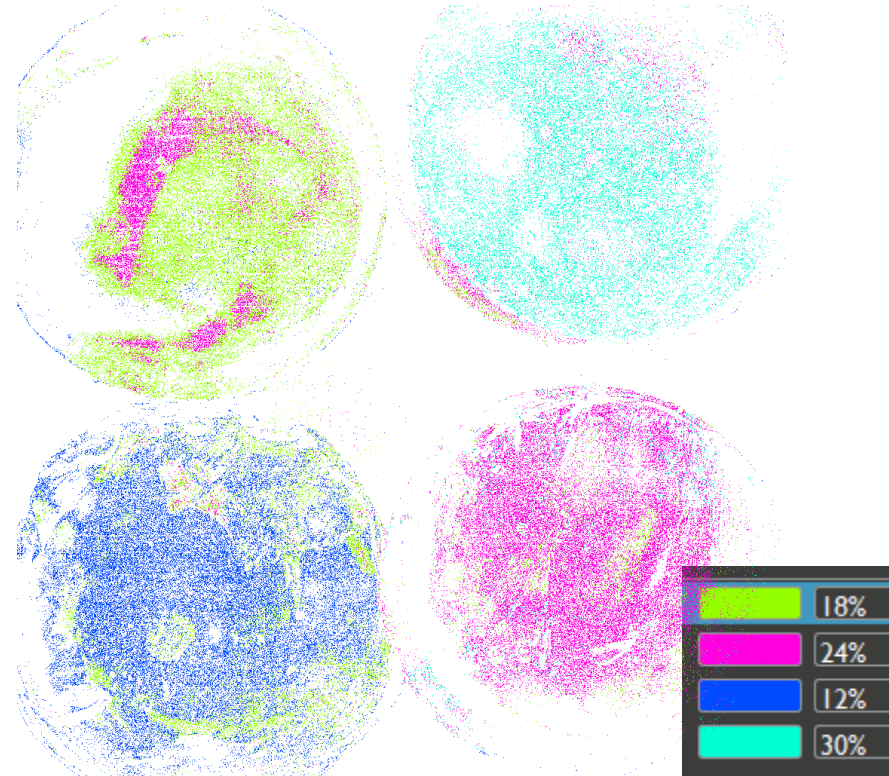
Yellow	18%
Red	24%
Green	12%
Blue	30%

Spectrum

HSI Studio – Classification

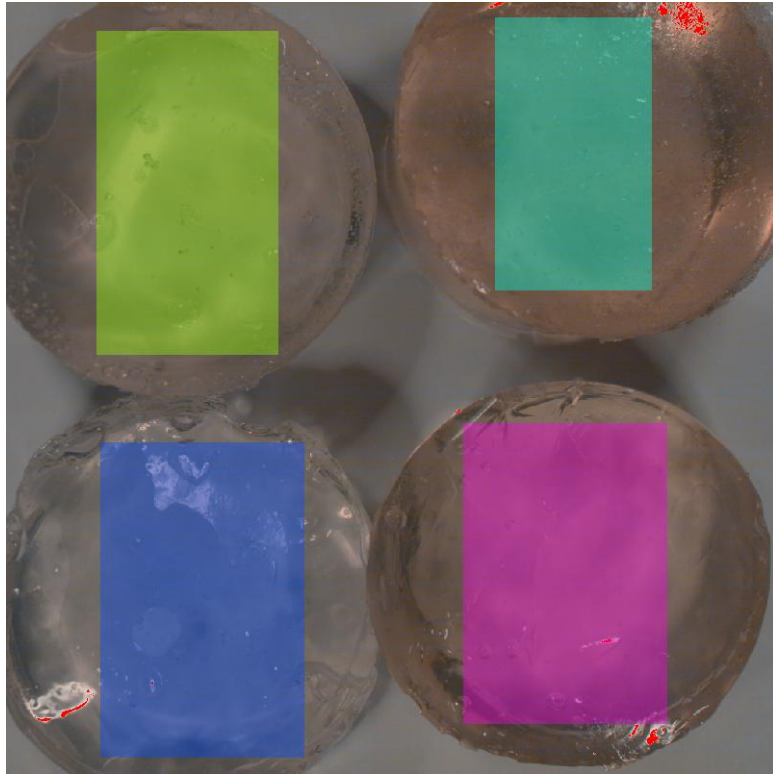


ROI - Circle

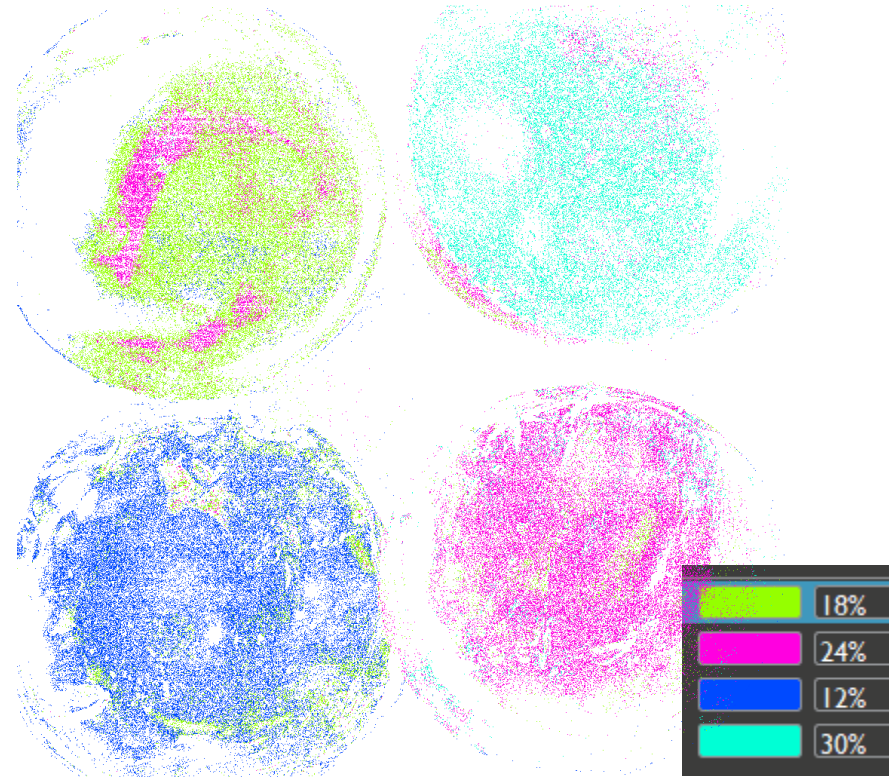


SAM classifier

HSI Studio – Classification

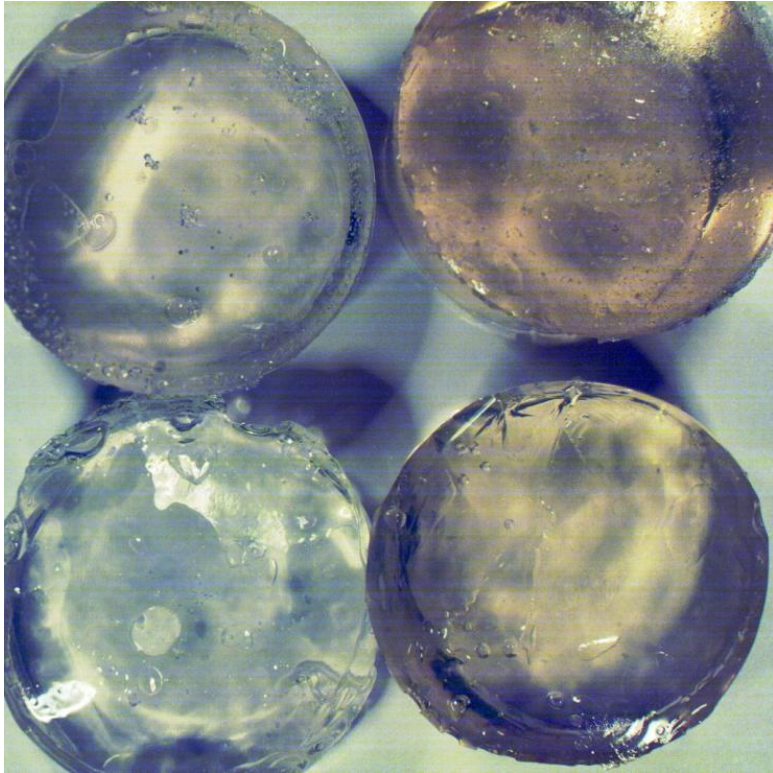


ROI - Rectangle

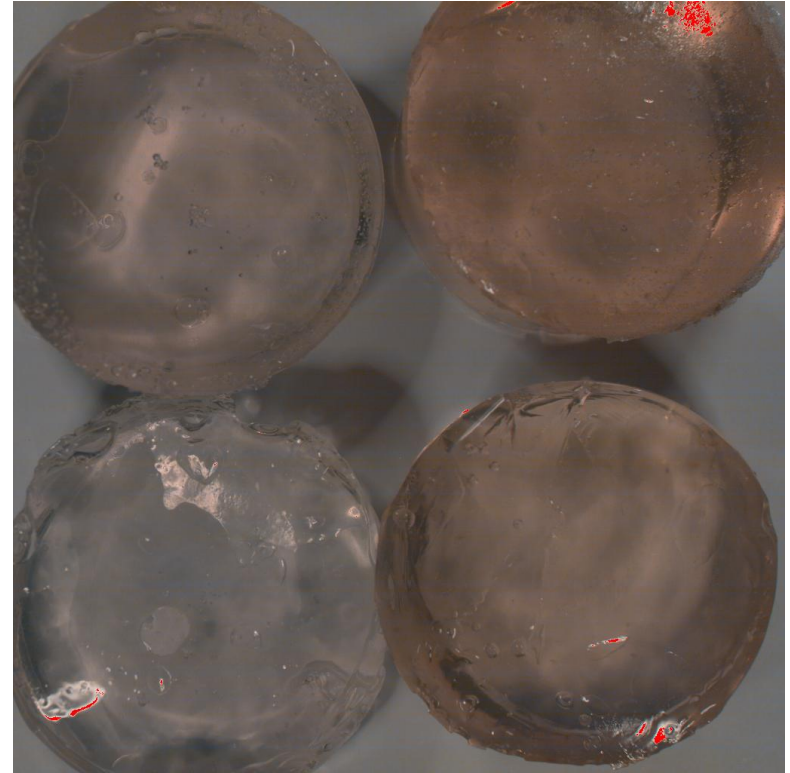


SAM classifier

ENVI – Rendering image

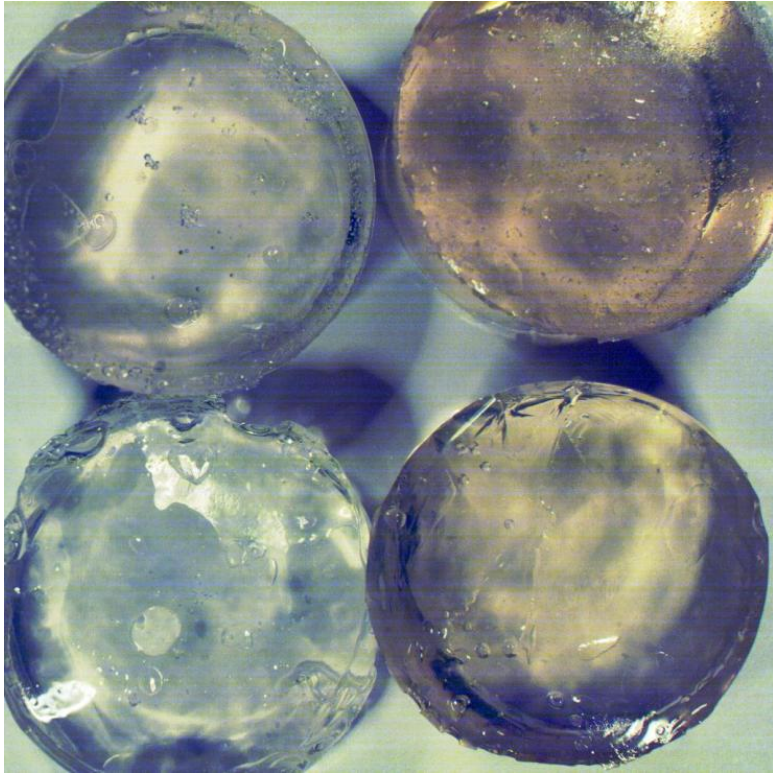


Color

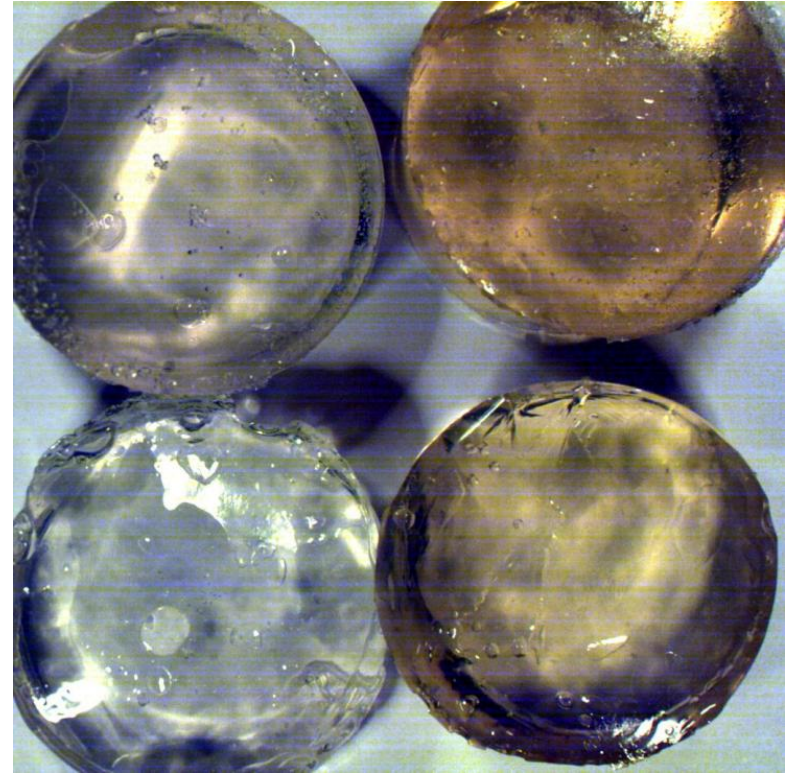


HSI Studio_Color

ENVI – Rendering image

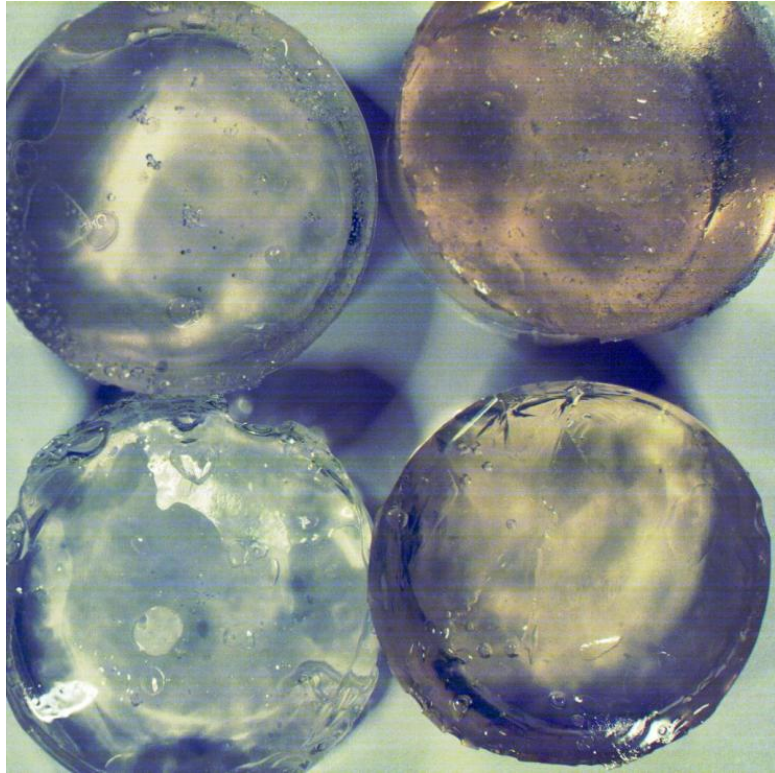


Color

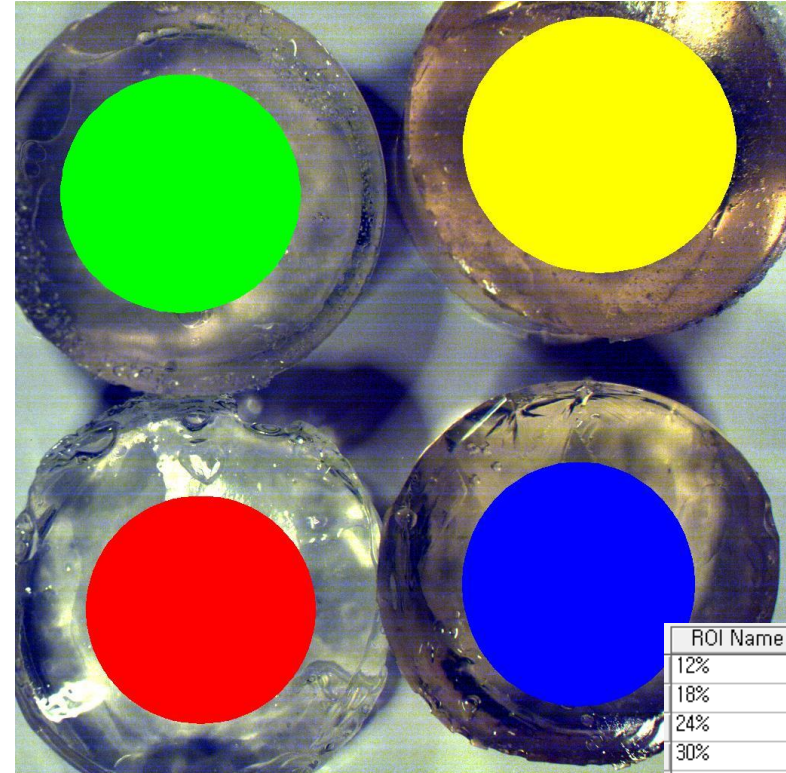


Color_Gaussian low filtered

ENVI – Region of Interest



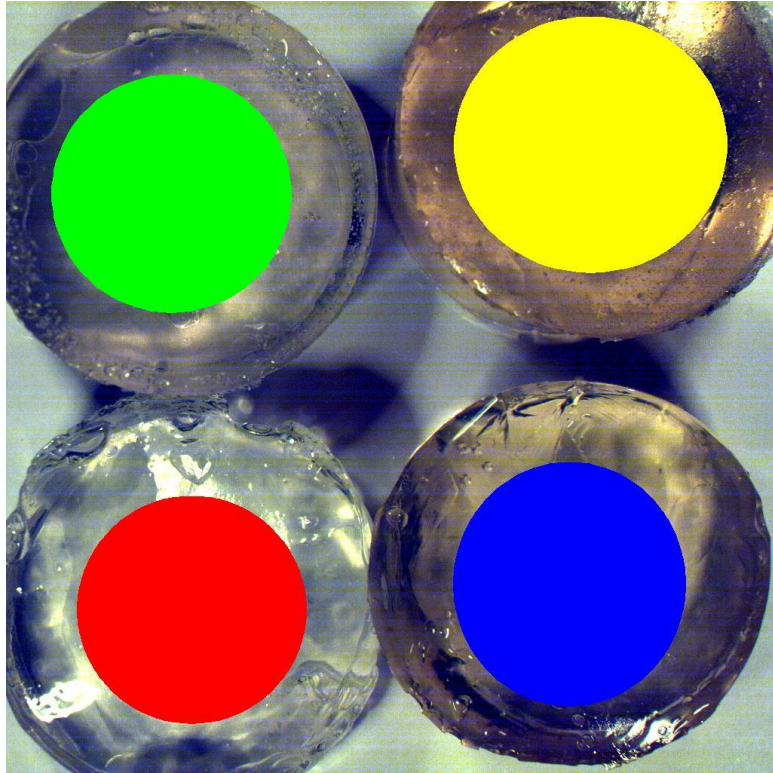
Color



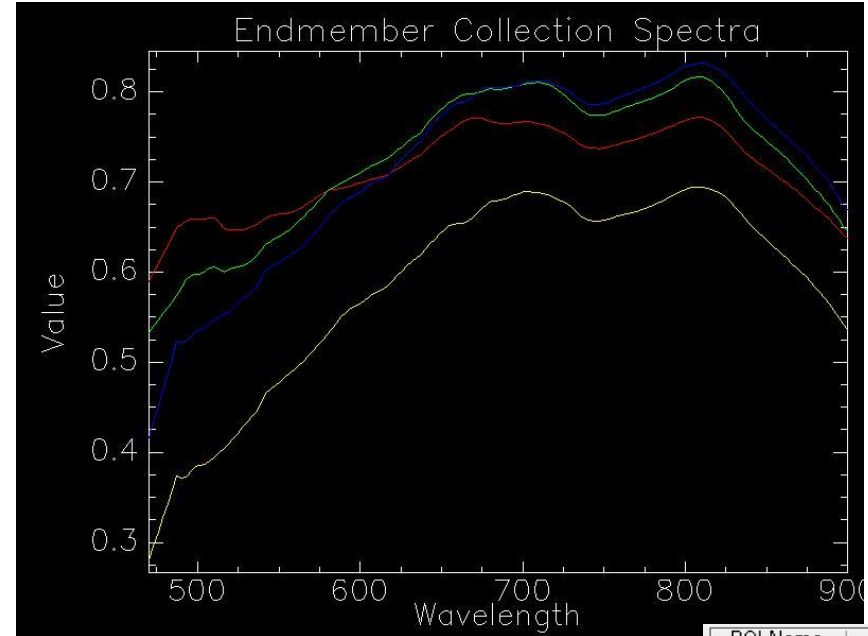
ROI Name	Color
12%	Red
18%	Green
24%	Blue
30%	Yellow

ROI Selection

ENVI – Reflectance Spectrum



ROI Selection

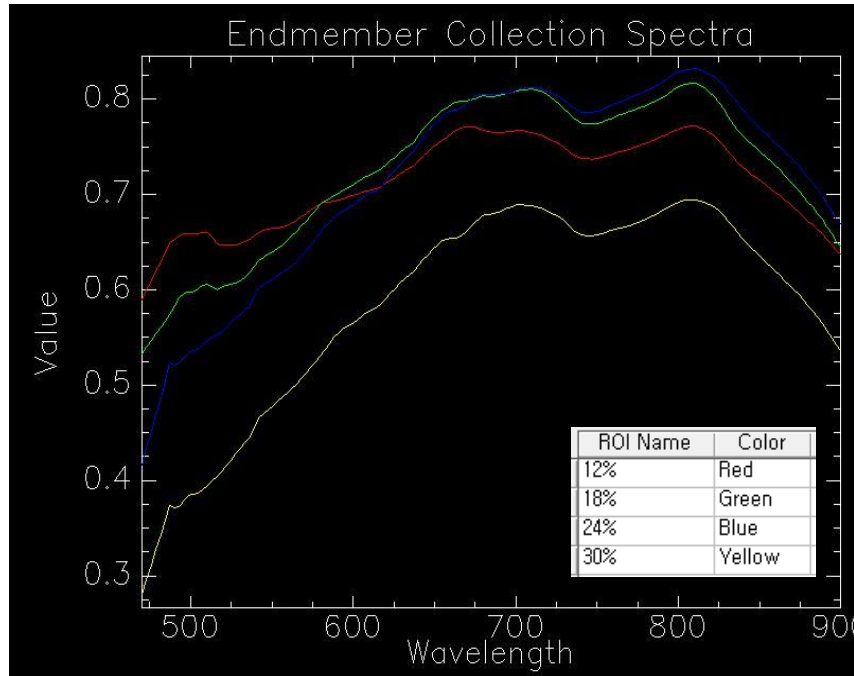


gel_spectrum.txt

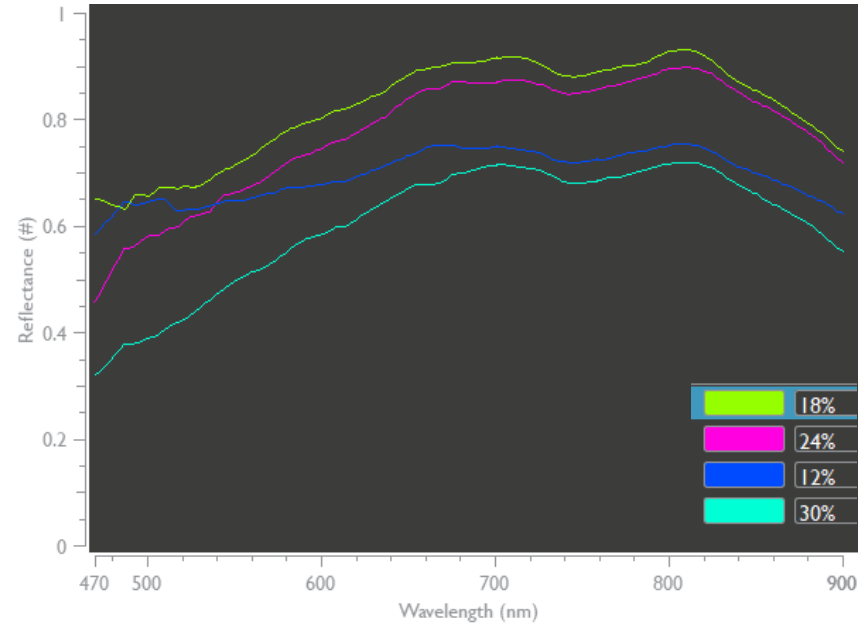
ROI Name	Color
12%	Red
18%	Green
24%	Blue
30%	Yellow

Spectrum

ENVI – Reflectance Spectrum

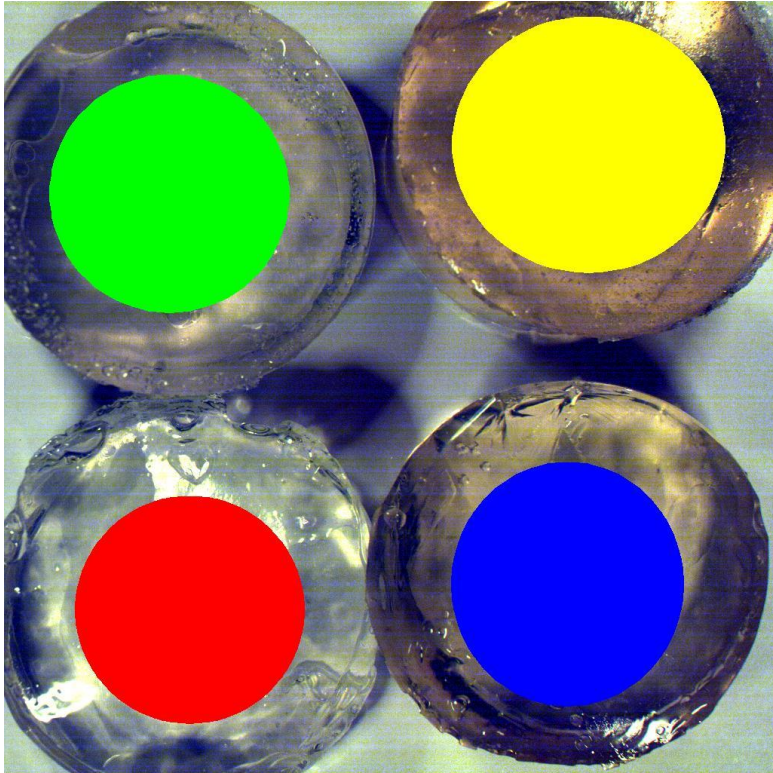


ENVI_ROI_Spectrum

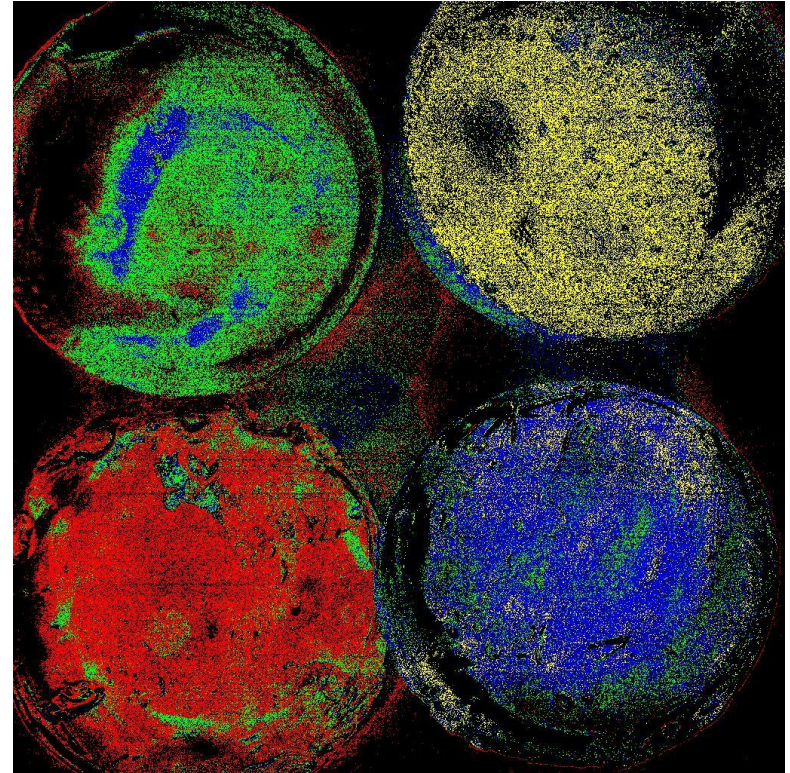


HSI Studio_Spectrum

ENVI – Classification

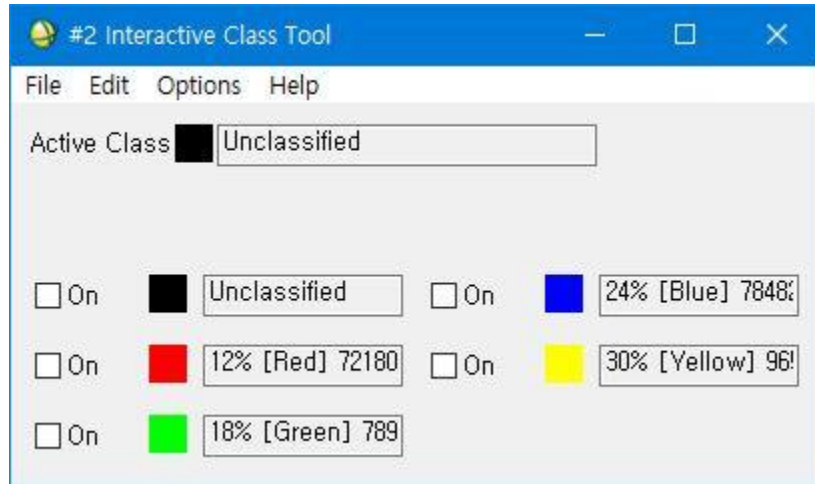


Color



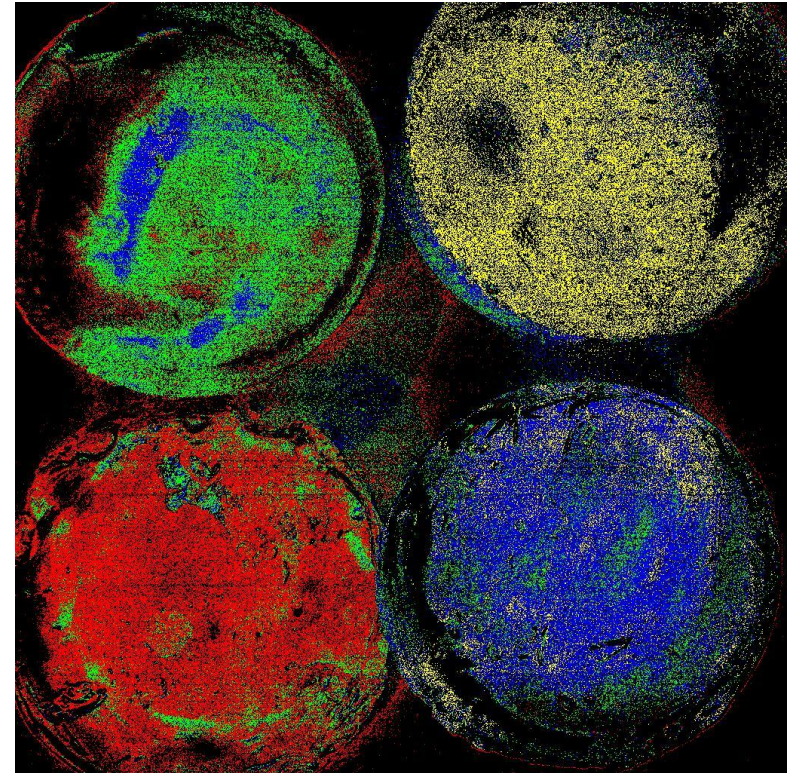
SAM classification

ENVI – Classification



SAM_half_result.txt

Classification Stat

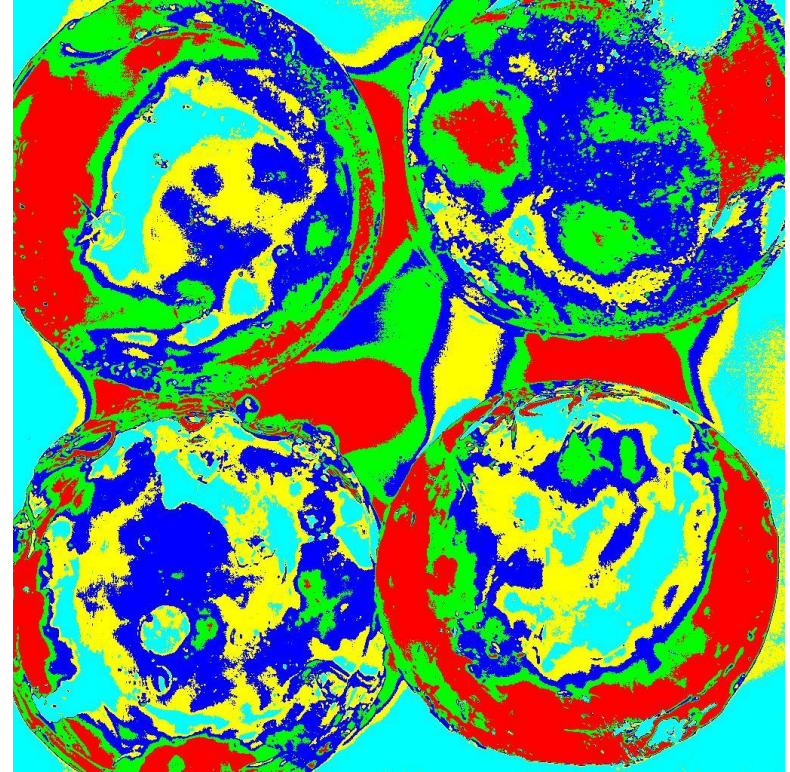


SAM classification

ENVI – Classification

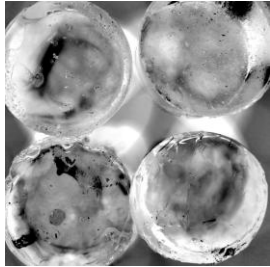


Color

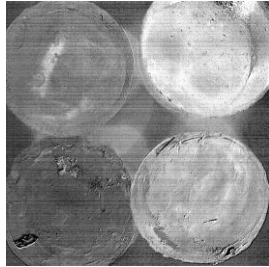


K-Means_Unsupervised classification

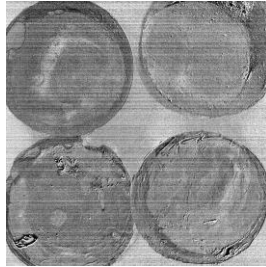
ENVI – Classification



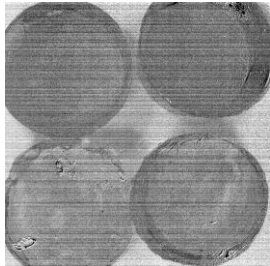
PC band 1



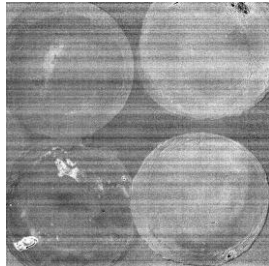
PC band 2



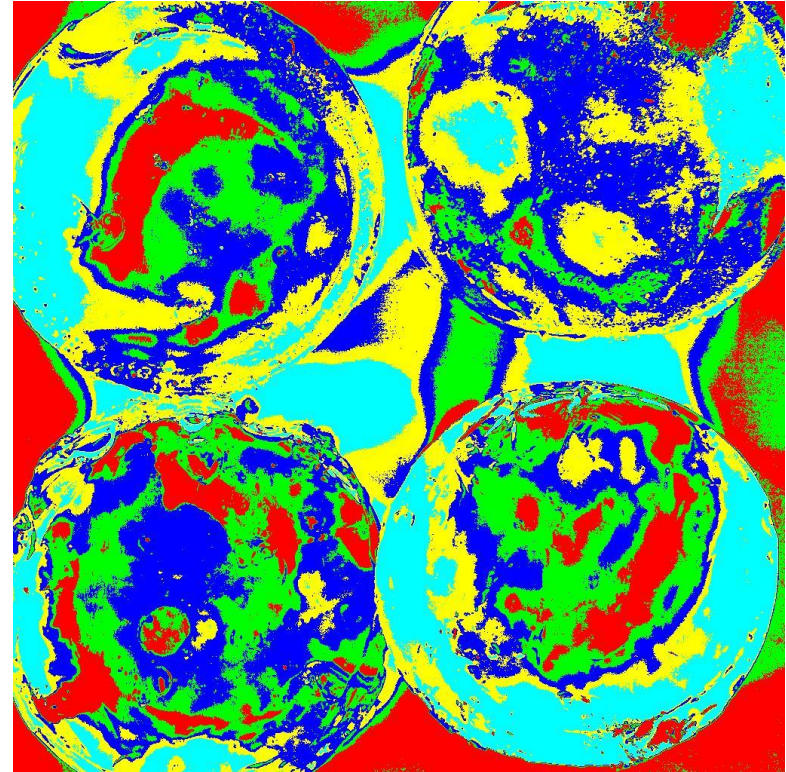
PC band 3



PC band 4



PC band 5



Principle component (ex. 5 bands)

PCA & K-Means

THANK YOU
