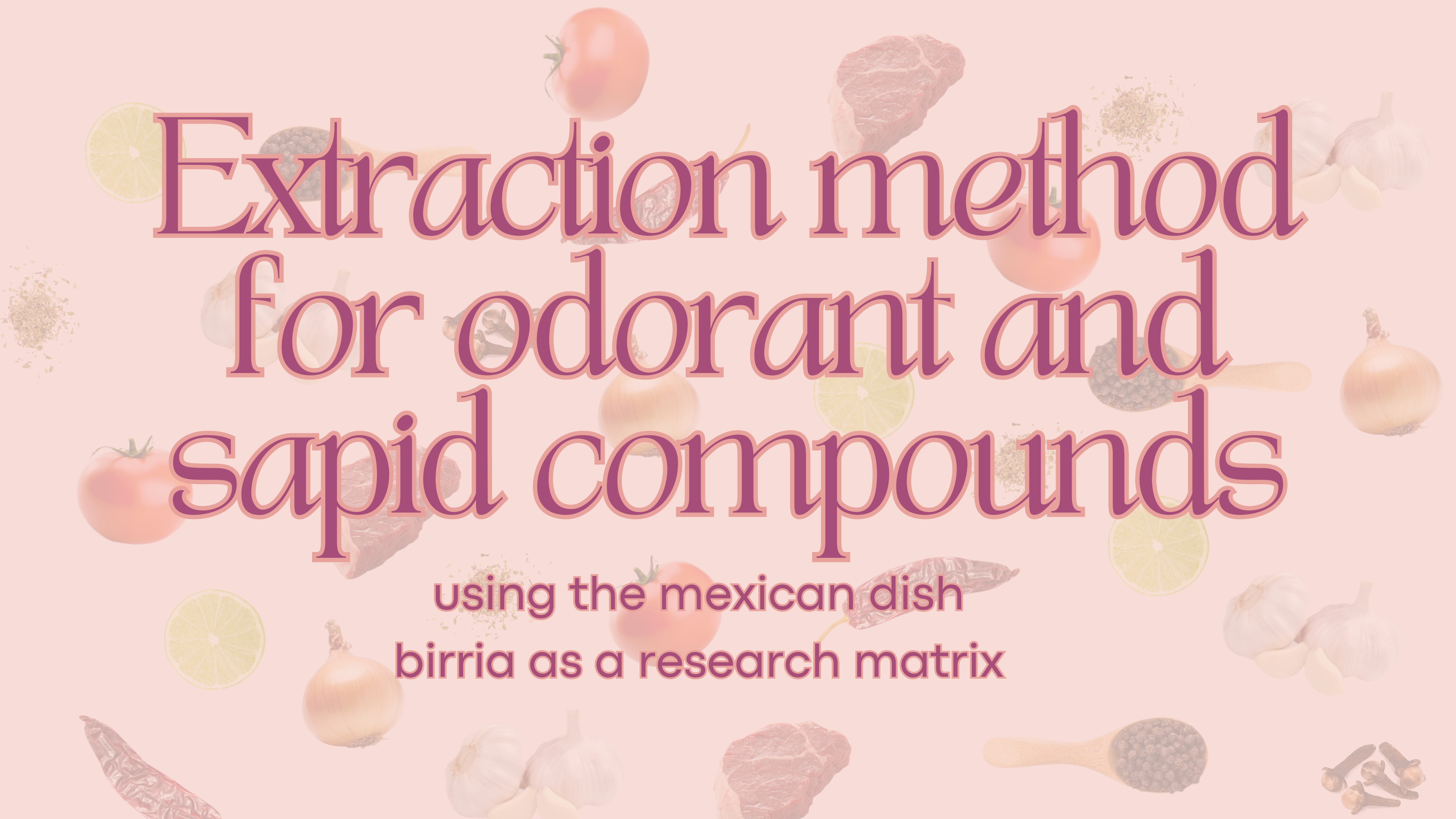




Extraction method for odorant and sapid compounds

using the mexican dish
birria as a research matrix

What is birria and why we chose it?





For this study, we identified three main odorant contributions in birria: adobo, meat, onion, and garlic.

Criteria	Agar Agar - Low Temperature extraction protocol	Synthetic falvouring recreation process
Raw materials	Traditional birria + food safe grade agar-agar	Industrial Chemical Compounds
Key process	Gelification, cold filtration, concentration	SPME, GC-MS + Senior flavorist formula to recreate flavours
Technical complexity	Medium - achieved with basic and household equipment	High - specialized analytic equipment
Sensorial Authenticity	High - keeps the original complex flavour matrix	Variable - depends on identifying odorant compounds of each ingredient
Average cost	Medium - low	High - (equipment + flavourist honoraries)
Normative regulations	Complies with all the standards	Requires declaration of artificial flavour usage

Equipment



Pressure
Cooker



Scale



Coffee filters



Freezer with
thermometer



Fridge

Development Process

Prepare the
Birria dish

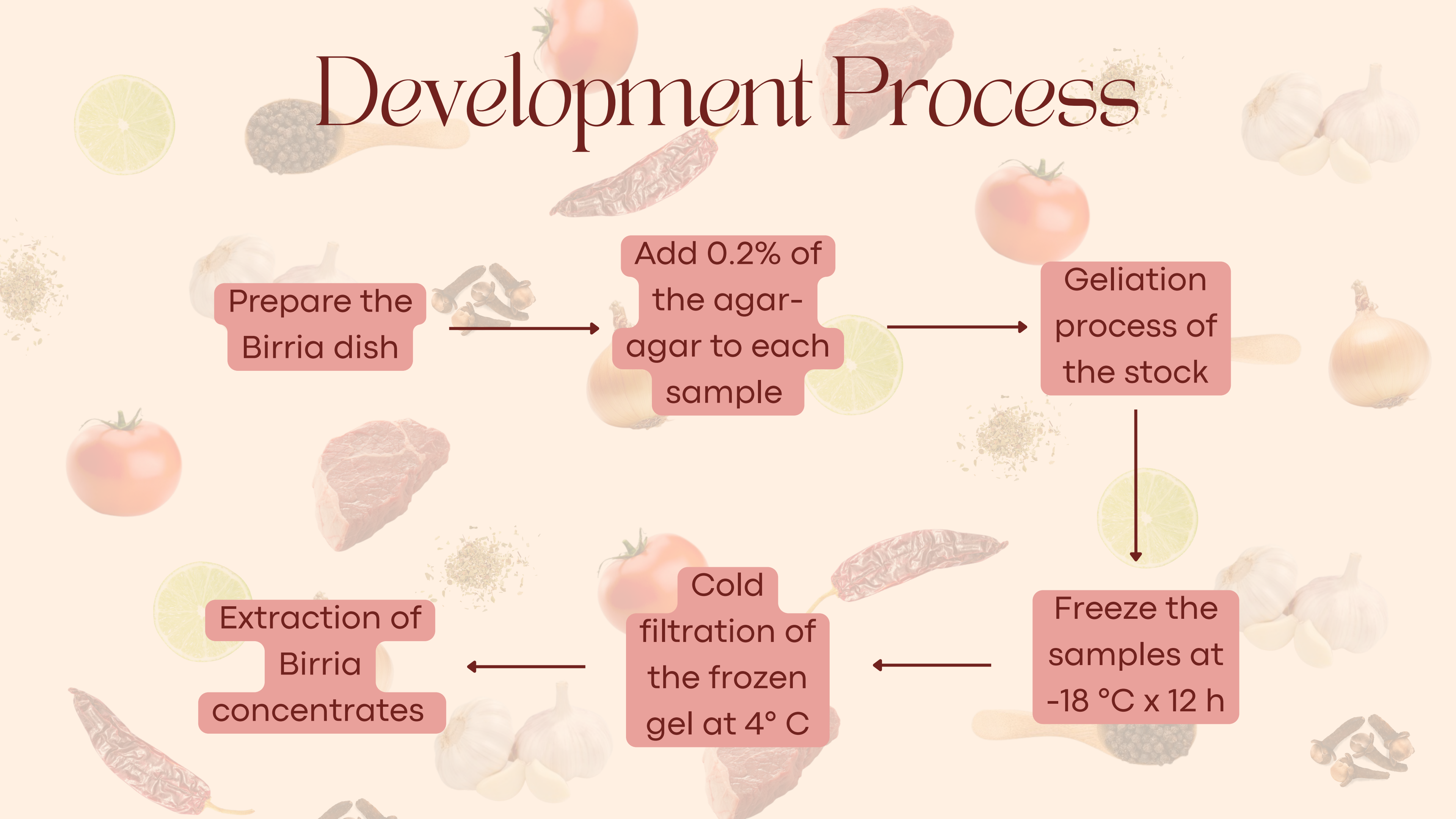
Add 0.2% of
the agar-
agar to each
sample

Geliation
process of
the stock

Extraction of
Birria
concentrates

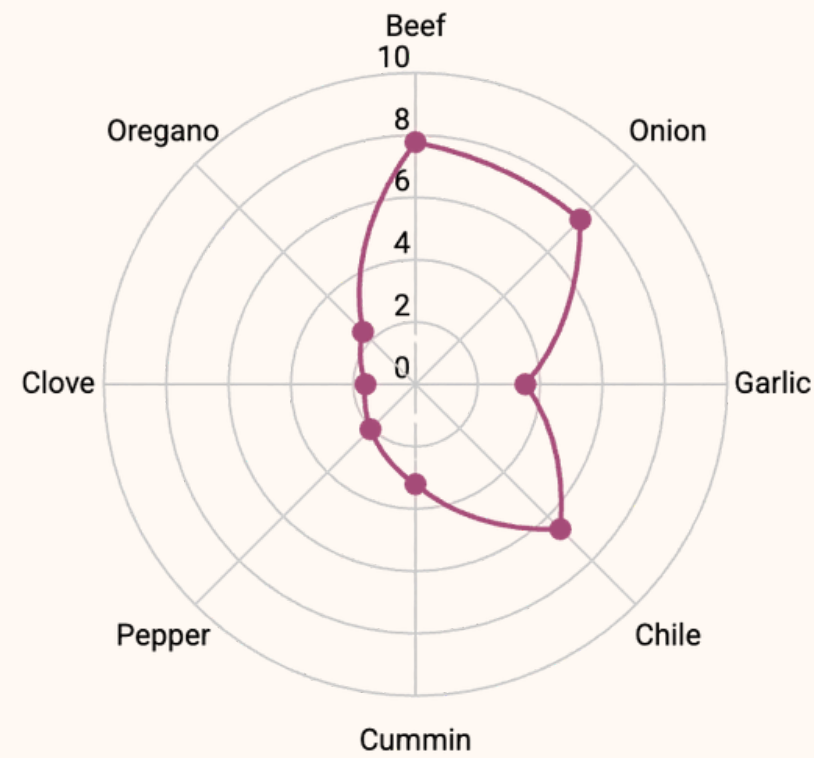
Cold
filtration of
the frozen
gel at 4° C

Freeze the
samples at
-18 °C x 12 h

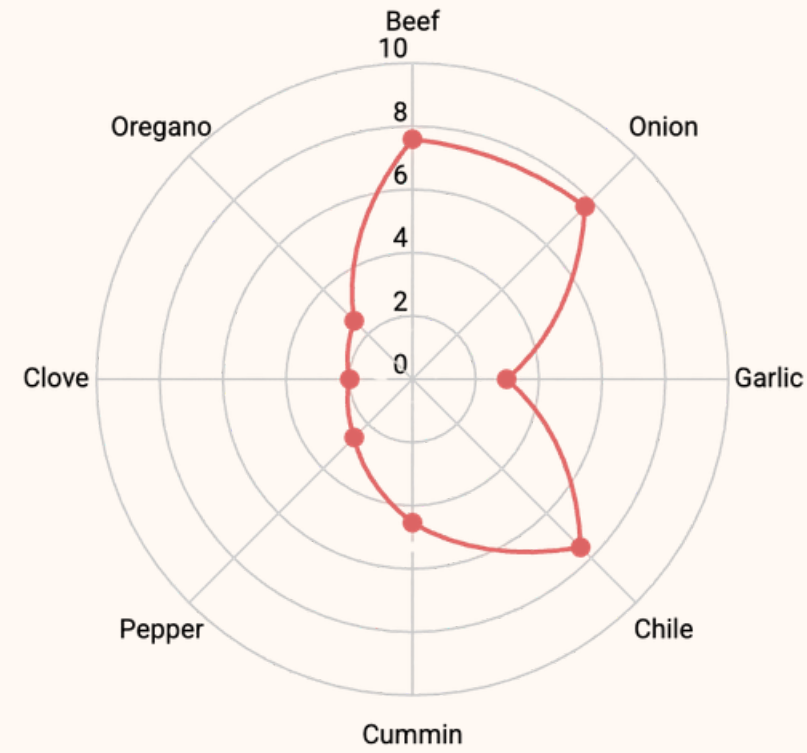


Results

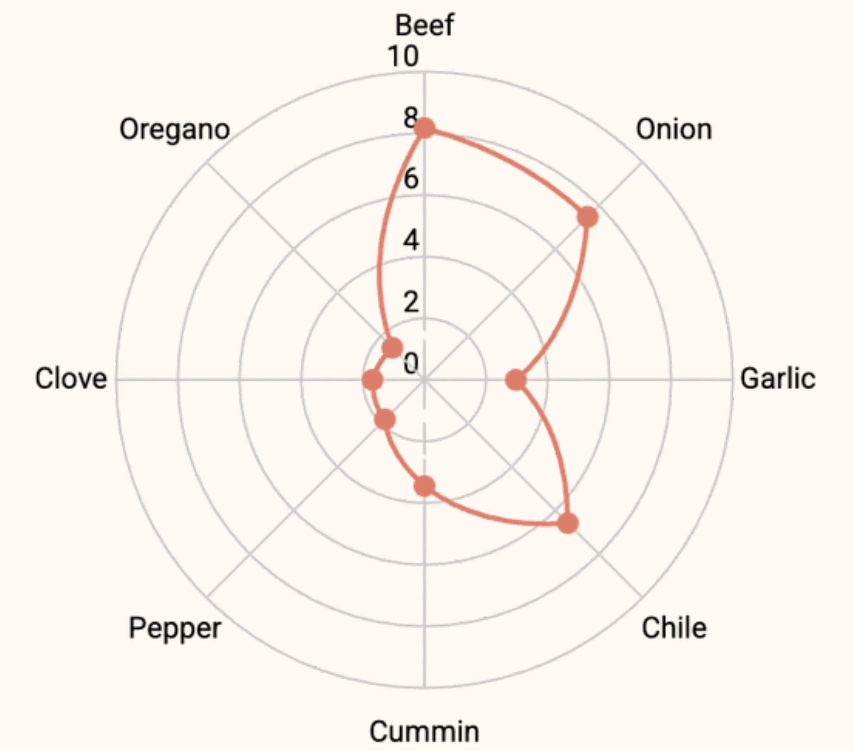
Birria Dish Odor Profile



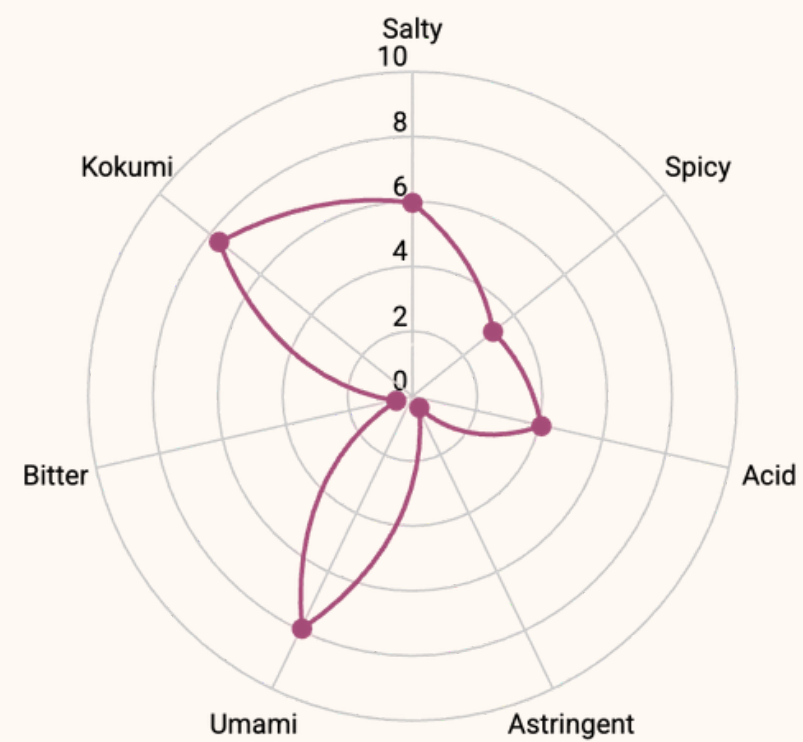
Birria Concentrate Odor Profile



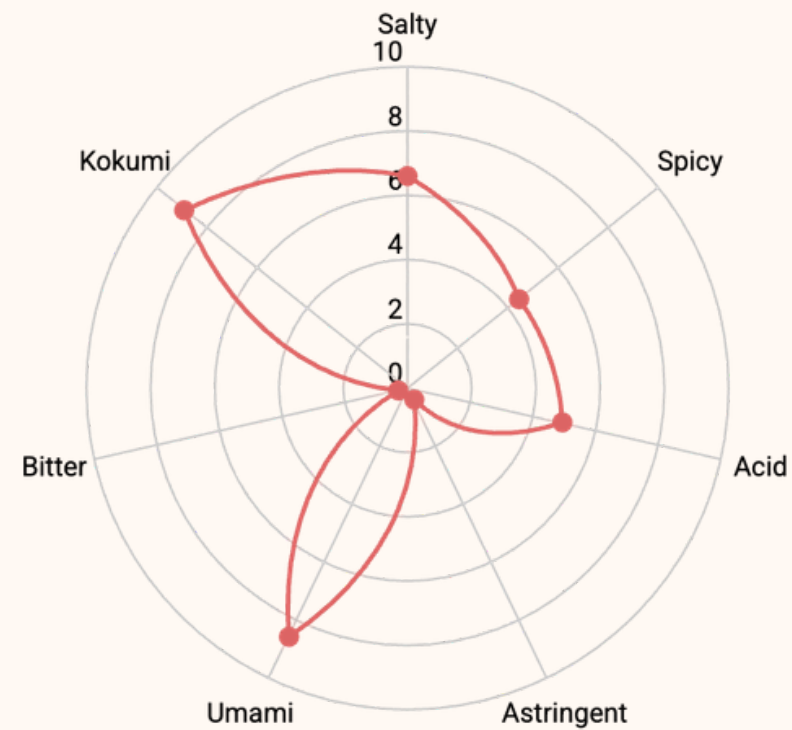
Birria Chips Odor Profile



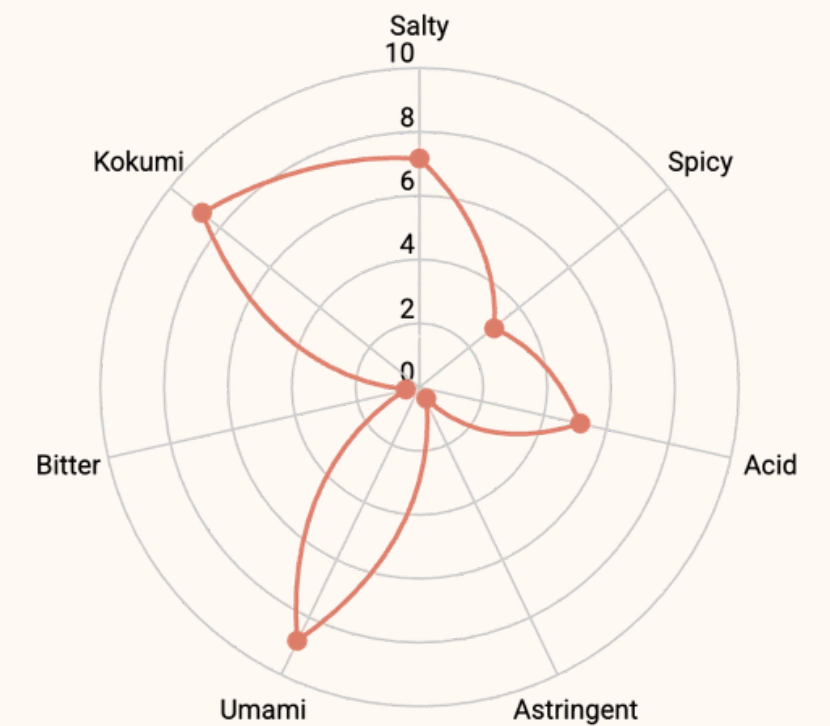
Birria Dish Flavour Profile



Birria Concentrate Flavour Profile



Birria Chips Flavour Profile



Conclusions

- The extraction protocol is effective and preserves the original dish profile in a ~ 95%
- The equipment required is low-cost and readily available
- The process is adaptable and can be scaled without compromising quality



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