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## COSMOPOLITAN R-EVOLUTION

INTRODUCTION & RECIPE BOOKLET  
LIVRET D'INTRODUCTION ET DE RECETTES





## MOLECULAR GASTRONOMY TECHNIQUES

AMAZE FAMILY & FRIENDS. THE CREATIVE CUISINE OF RENOWNED CHEFS AT YOUR FINGERTIPS.

Natural texturing agents can now be used to deconstruct any dish or cocktail thanks to 3 spectacular molecular techniques.



### SPHERIFICATION

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Encapsulate your Irish cream into a large sphere or add some fruit juice based caviar to your drink to create a burst of flavor in your mouth.



### EMULSIFICATION

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Deconstruct almost any watery solution into light foams for a modern touch that will liberate and intensify flavors.



### GELIFICATION

Aa

Wrap your fruit salad into a sheet of rum, create parmesan-based spaghetti or bring a melt-in-the-mouth effect to your edible cocktails.



## COSMOPOLITAN R-EVOLUTION

IMPRESS YOUR FRIENDS WITH 3 RECIPES THAT PUSH THE BOUNDARIES OF MODERN MIXOLOGY!

Add a molecular twist to your traditional cosmo sure to awe your guests! Serve a cosmopolitan bubble on a spoon that will pop in your mouth, top off your cocktail with a light fluffy cranberry foam or suspend citrus caviar in your drink.

### CRANBERRY FOAM

Top your cosmopolitan with a light, tasty cranberry foam.

MOLECULAR TECHNIQUE INVOLVED:  
EMULSIFICATION



### CITRUS CAVIAR

Create spectacular floating caviar with a liquid interior.

MOLECULAR TECHNIQUE INVOLVED:  
BASIC SPHERIFICATION



### ENCAPSULATED COSMO

Encapsulate your cosmo into a large sphere that will burst in your mouth.

MOLECULAR TECHNIQUE INVOLVED:  
REVERSE SPHERIFICATION







## CRANBERRY FOAM

### INGREDIENTS

White cranberry juice	1 1/2 cup (315 ml)
Vodka	3 oz (90 ml)
Lime juice	1 oz (30 ml)
Red cranberry juice	2 oz (60 ml)
Ice cubes	5-6
Sugar	1 tbsp (15 ml)
Citrus liqueur	1/2 oz (15 ml)

### ADDITIVES

SOY LECITHIN	1 sachet (2 g)
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### MOLECULAR TWIST: EMULSIFICATION

1. In a bowl, combine **SOY LECITHIN**, sugar, white cranberry juice, and 1 oz (30 ml) vodka.
2. Using a hand blender, incorporate air bubbles into the solution to produce a good quantity of foam.
3. Set the white foam aside.

### COCKTAIL DIRECTIONS

1. Combine 2 oz (60 ml) vodka, lime juice, citrus liqueur and red cranberry juice in a shaker filled with ice cubes.
2. Shake vigorously and strain into a martini glass.
3. Garnish with white cranberry foam.



Add **SOY LECITHIN** to the tasty liquid preparation.



Incorporate air bubbles into the solution.



Spoon foam and serve.

## Tips & Tricks



- To efficiently incorporate air into a lecithin-based solution, the use of a hand blender is preferred as some egg beaters are not powerful enough.



- To maximise results, slightly tilt the blender to allow the blades to almost reach the surface of the liquid and avoid completely immersing the head of the blender.



- The use of a flat-bottom square bowl is suggested as it will help avoid the formation of whirlpools which would slow down the creation of the foam.

## EMULSIFICATION

The emulsification technique is used to transform any liquid into a light and tasty foam.

Soy lecithin is a protein contained in soy that has the unique property of stabilizing foams. This emulsifier can be used to reach an unusual equilibrium between air and liquid, allowing the incorporation and retention of air bubbles into any watery solution.

- You can replace the sugar with cranberry flavored syrup to make a sweet red foam.



## FREQUENTLY ASKED QUESTIONS

### STEPS

### QUESTIONS

### ANALYSIS & TIPS

#### EMULSIFICATION PROCESS

Why is there no foam forming?

More air bubbles need to be incorporated into the solution:  
 - The use of a flat-bottom square bowl is recommended as it will help avoid the creation of whirlpools which would break the bubbles as they form.  
 - Use a hand blender as some eggbeaters are not powerful enough.  
 - Place the blender on an angle and avoid completely immersing its head.

How can I make more foam?

The soy lecithin solution can be reblended several times to obtain more foam:  
 - You can reblend your soy lecithin solution as long as there is enough liquid to be blended.

#### SERVING AND PRESERVATION

How long in advance can I prepare my foam?

The foam will stand for about 30 minutes before it begins to dry.

Can I store a soy lecithin solution?

The soy lecithin solution can be reblended several times to obtain more foam:  
 - Preserve your soy lecithin-based solution for up to a couple of days in a closed container in the fridge.

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## CITRUS CAVIAR

### INGREDIENTS

Vodka	1 oz (30 ml)
Citrus liqueur	5 oz (150 ml)
Lime juice	1 oz (30 ml)
White cranberry juice	1 1/2 oz (45 ml)
Ice cubes	5-6
Lime	1 zest
Water	1 cup (235 ml)
Sugar	2 tbsp (30 ml)
Red food coloring	Few drops
Red cranberry juice	1/2 cup (80 ml)

### ADDITIVES

SODIUM ALGINATE	1 sachet (2 g)
CALCIUM LACTATE	1 sachet (5 g)

### MOLECULAR TWIST: SPHERIFICATION

- In a bowl, combine the red cranberry juice, 4 oz of citrus liqueur, 1 cup of warm water, a few drops of red food coloring, 2 tbsp sugar and the **SODIUM ALGINATE**. Mix with a hand blender until the alginate is completely dissolved.
- Set aside for at least 30 minutes allowing the air bubbles trapped in the solution to escape.
- In a bowl, dissolve the **CALCIUM LACTATE** into 4 cups of water by stirring with a spoon.
- Fill a pipette with the red mixture and drip droplets into the **CALCIUM LACTATE** bath.
- Pick up the red caviar with a sieve and rinse them with water.

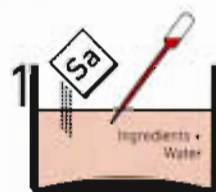
### COCKTAIL DIRECTIONS

- Combine the vodka, 1 oz (30 ml) of citrus liqueur, the lime juice and the ice cubes in an electric blender.
- Blend on low speed until mixture is smooth.
- Add the red caviar previously made. Mix with a spoon (do not blend) until the caviar is evenly distributed.
- Pour into a martini glass, garnish with a zest of lime and serve.

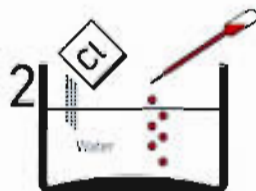


- To avoid clumping, the use of a hand blender is preferred as some egg beaters are not powerful enough to properly dissolve the sodium alginate.

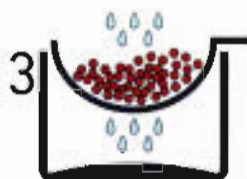
- When not in contact with calcium, sodium alginate acts like a thickening agent, trapping air in the solution when blended. Allow the solution to rest at least 30 minutes so that the air bubbles escape from the alginate bath.



1 Add SODIUM ALGINATE to the tasty liquid preparation.



2 Drip the sphere preparation into a CALCIUM LACTATE bath.



3 Rinse with water and serve.

### Tips & Tricks

- The spherification process used to create caviar will not stop after the pearls are rinsed. The membranes will thicken until the beads are completely congealed. Therefore, it is best to serve immediately to ensure that the interior of the caviars remain liquid.

## BASIC SPHERIFICATION

The basic spherification technique is ideal to create small caviar beads sure to wow your pals with their tasty liquid interiors!

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When the sodium alginate preparation is dripped into the calcium bath, calcium ions react with the alginate molecules to create a thin gel membrane that forms the caviar bead's wall. This gelification process will continue even after rinsing the spheres as some alginate molecules have remained trapped inside the gel membrane, thickening the wall as the interaction with the calcium ions persists.



## FREQUENTLY ASKED QUESTIONS

STEPS	QUESTIONS	ANALYSIS & TIPS
SPHERE PREPARATION	Why has my sphere preparation gelled during blending?	Alginate molecules have interacted with some calcium ions and the gelification process has started prematurely: - Use distilled water if your tap water has a high calcium content.
SPHERIFICATION PROCESS IN CALCIUM BATH	Why are my droplets staying on the surface of the calcium bath?  Why is my caviar not perfectly round?	Too many air bubbles have remained trapped in the alginate solution: - Set aside for at least 30 minutes after the sodium alginate has been blended.  Droplets need some time to reach their spherical shape in the air. If they are dropped from too high, the impact with the calcium bath will deform them: - Release the droplets from a height of approximately 1 inch. - Drop droplets at a slow and consistent pace. - Hold the pipette horizontally to obtain more control and to create larger caviar beads.
RINSING, SERVING AND PRESERVATION	Why does my caviar not have a liquid interior?  How long in advance can I prepare my caviar?	Even after rinsing, the gelification process continues as alginate molecules remain in contact with some calcium ions: - Let the caviar rest in the calcium bath for no more than 1 minute and serve within 15 minutes.  Since the gelification process never stops, the caviar beads will end up completely congealed though they will still be edible. Marination could also enhance flavors: - Store the caviar for up to 24 hours in its original juice.



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## ENCAPSULATED COSMO

### INGREDIENTS

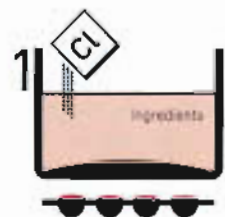
Citrus liqueur 1 oz (30 ml)  
 Red cranberry juice 3 1/2 oz (105 ml)  
 A dash of white cranberry juice  
 A dash of lime juice  
 A dash of vodka

### ADDITIVES

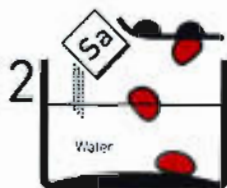
CALCIUM LACTATE 1/4 tsp (1.25 ml)  
 SODIUM ALGINATE 1 sachet (2 g)

### MOLECULAR TWIST: SPHERIFICATION

- Mix the red cranberry juice and the citrus liqueur.
- Add 1/4 tsp **CALCIUM LACTATE** and stir until the calcium is completely dissolved.
- Pour into the half-sphere mold and place in the freezer.
- In a bowl, dissolve **SODIUM ALGINATE** into 2 cups of water with a hand blender. Set aside 15 min.
- Unmold the iced cosmo in the sodium alginate bath. Gently stir the spheres in the bath for 3 min so that they do not stick together.
- Pick up the formed spheres with the slotted spoon and rinse them in a bowl of water.
- Place each sphere on a serving spoon, add a dash of vodka, a dash of lime juice and a dash of white cranberry juice and serve.



Add a pinch of **CALCIUM LACTATE** to a tasty preparation.



Submerge the sphere preparation into a **SODIUM ALGINATE** bath.



Rinse with water and serve.

### Tips & Tricks



To avoid clumping, the use of a hand blender is preferred as some egg beaters are not powerful enough to properly dissolve the sodium alginate.

Gently stir the spheres in the alginate solution so that the thin gel membrane is uniform.



The longer the sphere is left in the alginate bath, the thicker its membrane will be.

When not in contact with calcium ions, sodium alginate acts like a thickening agent, trapping air in the solution when blended. Allow the

solution to rest at least 15 minutes so that the air bubbles escape from the alginate bath.

Spheres should never touch each other because unformed membranes can stick together and break.

## REVERSE SPHERIFICATION

The reverse spherification technique is ideal to encapsulate a liquid into a large sphere that will explode in your mouth!

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When a frozen solution containing calcium lactate is submerged into the alginate bath, alginate molecules align and bind together to form a gel membrane thanks to a reaction involving calcium ions. The sphere's membrane will continue to develop as long as this binding process occurs in the alginate bath, but the gelification process will stop at the moment the spheres are rinsed.



## FREQUENTLY ASKED QUESTIONS

STEPS	QUESTIONS	ANALYSIS & TIPS
SPHERE PREPARATION	Why is my calcium lactate not dissolving properly?	Calcium lactate is very easy to dissolve in water whereas dissolution takes longer in thick solutions: - Dissolve the calcium lactate into a very small amount of water prior to adding it to the sphere preparation.
SPHERIFICATION PROCESS IN ALGINATE BATH	Why is my alginate bath gelifying during blending?	Alginate molecules have interacted with some calcium ions and the gelification process has started prematurely: - Use distilled water if your tap water has a high calcium content.
	Why are my spheres staying on the surface of the alginate bath?	Some air has remained trapped in the alginate bath and a longer rest time is needed to allow the air bubbles to escape: - Once the alginate is completely dissolved, set aside for at least 15 minutes to allow the air bubbles to escape from the water. More time might be required. - If there are still too many air bubbles trapped, add some water to the alginate bath to make it less thick.
	Why are my spheres so fragile that I can't remove them from the alginate bath?	The gel membrane did not have enough time to form around the frozen sphere preparation: - Let your spheres rest in the alginate bath for a longer period to allow the membrane to become thicker. - Use your slotted spoon to gently stir the spheres and ensure a uniform gelification. - The use of a square-bottom bowl is recommended for your alginate bath as it helps prevent the spheres from touching one another.

# REVERSE SPHERIFICATION ENCAPSULATED COSMO

## MORE FREQUENTLY ASKED QUESTIONS ...

### STEPS

### QUESTIONS

### ANALYSIS & TIPS



#### SPHERIFICATION PROCESS IN ALGINATE BATH

Why are my spheres  
not round?

A sphere's shape depends on the point of contact between the frozen sphere preparation and the alginate molecules contained in the alginate bath:

- Gently stir the spheres in the alginate bath with your slotted spoon to control the shape of the sphere.

Why are my spheres  
all stuck together?

The unformed alginate membranes of different spheres tend to stick together in the alginate bath:

- Use your slotted spoon to gently stir the spheres and to ensure a uniform gelification.
- Use your slotted spoon to ensure spheres do not touch each other.
- The use of a square-bottom bowl will help increase the space between spheres in your alginate bath.

#### RINSING, SERVING AND PRESERVATION

How long in advance  
can I prepare my  
spheres?

The gelification process is stopped when spheres are removed from the alginate bath and rinsed. Spheres have a long lifespan and can therefore be prepared well in advance, as opposed to caviar created with the basic spherification technique:

- Store spheres in their original liquid for 5 to 12 hours.
- Let the spheres marinate in another liquid to add some extra flavour or to add color to the spheres.



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