

MODERNIST CUISINE

These recipes boast a level of complexity that is no small feat for the average chef, yet the results reflect the essence of their ingredients: a tomato-infused gelatin draped over a summery salad and ravioli made entirely of fall vegetables. The nutrition numbers are approximate and often step outside our guidelines, but the recipes are a worthwhile glimpse into the minds of two of America's most forward-thinking chefs, Anjana Shanker and Maxime Bilet of *Modernist Cuisine*.

Low-Temperature Cured Halibut, Pistachio and Spring Garlic Emulsion, and Purslane

Cooking fish at a precise, low temperature works wonders. Fish is routinely cooked to a much higher temperature than necessary, causing the flesh to dry out and the fish oils to oxidize and produce unpleasant aromas. Here, we have cooked the fish sous vide in a water bath to a core temperature of just 113 °F.

First, however, we quick-cure the halibut with a salt-sugar rub, which helps to preserve the juicy firmness of the fish. For the sauce, we make a sake reduction and then add a bit of beautiful green pistachio paste to add layers of flavor and a creamy mouthfeel. Any bright-green herb or lettuce with some acidity adds a delightful contrast of color and flavor to the pearly white of the fish and the light green of the sauce.

Halibut Cure:

4 ½ tablespoons salt
2 ½ tablespoons sugar
4 (6-ounce) halibut fillets, skinned
¼ cup canola oil

Sake Reduction:

5 shallots, thinly sliced
2 tablespoons canola oil
1 small bottle dry sake

Pistachio and Spring Garlic Emulsion:

⅔ cup sake reduction
1 cup spring garlic, peeled and blanched
1 ½ tablespoons pistachio paste (Sicilian preferred)
¼ cup cold butter, cut into cubes
Lemon juice to taste

For Assembly:

1 cup purslane leaves
1 cup cooked green peas
¼ cup wild sorrel

1. To prepare the halibut cure, combine salt and sugar together; mix to blend. Place fish in a baking tray; sprinkle the salt and sugar mixture evenly over the fish and rub into all of the surfaces. Wrap plastic over the fish and store in the refrigerator for 45 minutes to cure. Wash and rinse off the cure and pat dry with a paper towel. Place on a baking sheet, cover with plastic wrap, and set aside in the refrigerator.
2. Preheat a water bath to 115 °F.
3. Place each fillet in a separate zip-top bag with 1 tablespoon of oil. Remove as much air as possible from the bag and seal. Cook the fish sous vide to a core temperature of 113 °F, about 20 minutes.

4. To prepare the sake reduction, sauté shallots in 2 tablespoons oil until translucent. Add sake; simmer 45 minutes or until reduced to 2/3 cup or until thick and syrupy.
5. To prepare the pistachio and spring garlic emulsion, pour the sake reduction into a larger saucepan. Add spring garlic; simmer 5 minutes. Add butter a little at a time and blend with a handheld blender. Strain through a fine-mesh sieve into another saucepan. Bring back to a simmer and blend-in the pistachio paste. Season to taste with lemon juice.
6. To assemble, garnish each fillet with a few leaves of purslane, peas, and wild sorrel.
7. Pour the pistachio and spring garlic emulsion around the fish at the table.

SERVES 4 (serving size: 1 fillet and about 3 tablespoons emulsion).

CALORIES 347; FAT 14.8g (sat 3.4g, mono 6.3g, poly 3.3g); PROTEIN 38.5g; CARB 9.9g; FIBER 2.5g; CHOL 64mg; IRON 2.6mg; SODIUM 1010mg; CALC 107mg

Cryoshucked Shigoku Oyster, Sunchoke Cream, Rose Hip Lemon Jelly, and Pickled Rose Petals

When a whole oyster is immersed in liquid nitrogen, something amazing happens. The ultracold nitrogen flash-freezes the adductor muscle, which then relaxes as it thaws. Shucking becomes a breeze and leaves the texture and shape of the oyster pristine and beautiful. For this dish, we wanted to accentuate the natural essence of the Shigoku oysters. The sunchoke oyster cream—a dairy-free emulsion—gives a satisfying depth to the nutty brininess of the oysters. The pickled rose petals and rose hip jelly add the top notes and the sharp acidity to create a very satisfying bite.

Sunchoke Oyster Cream:

12 Shigoku Oysters (or other small Pacific-style oyster), divided
1 gallon liquid nitrogen
1 pound sunchoke, thinly sliced
1/2 cup canola oil, divided
1/2 cup water
1/4 teaspoon salt

Rose Hip and Lemon Jelly:

3/8 cup boiling water
1 bag rose hip herbal tea (such as Tao of Tea)
1 sheet gelatin
1/2 cup fresh lemon juice
1 tablespoon sugar

Pickled Rose Petals:

1 cup water
3/4 cup champagne vinegar
1/2 cup sugar
1 1/4 teaspoons salt
6 organic roses, cleaned, stems removed

1. To prepare sunchoke oyster cream, transfer liquid nitrogen into a large bowl. Carefully place the oysters into the liquid nitrogen for 15 seconds. Quickly scoop the oysters and place them on a baking sheet lined with parchment paper for about 30 minutes at room temperature. Oysters will open by themselves. Shuck the oyster meats, pat dry, and store on a plastic-wrap lined baking sheet. Refrigerate. Reserve the nicest oyster shells to use later as serving vessels.
2. Sauté sunchoke in 1/4 cup canola oil until light golden brown. Add 1/2 cup water and salt; simmer for 45 minutes on low heat. If necessary, add more water. Blend until smooth and pass through a fine sieve.
3. In a beaker, place the sunchoke puree and 5 shucked oysters from above. Blend until smooth. Slowly add remaining 1/4 cup oil a little at a time until it has reached a thicker emulsion. Season with lemon juice to taste. Pass through a fine sieve and refrigerate until ready to use.
4. To prepare rose hip and lemon jelly, steep tea bag in boiling water 3–4 minutes; discard tea bag. Bloom gelatin in cold water; set aside. Combine lemon juice, 2 1/2 tablespoons rose hip tea, and sugar in a small saucepan; bring to a simmer. Gently remove gelatin sheet and squeeze out excess water; whisk gelatin into rose hip mixture. Remove from heat and cool to room temperature. Pour rose hip mixture into a tray or bowl and refrigerate.
5. To prepare pickled rose petals, combine water and remaining ingredients (except roses) in a bowl, stirring until sugar dissolves; add rose petals. Place brine and petals in a container; refrigerate at least 1 hour before serving.

6. To assemble, squeeze 1 tablespoon sunchoke oyster cream onto the reserved oyster shells. Place 1 shucked oyster over the oyster cream. Top with 1 teaspoon lemon jelly. Garnish each oyster with 2 pickled rose petals.

SERVES 6 (serving size: 1 oyster).

CALORIES 45; FAT 2.8g (sat 0.3g, mono 1.6g, poly 0.8g); PROTEIN 1.5g; CARB 3.7g; FIBER 0.7g;
CHOL 8.7mg; IRON 1.3mg; SODIUM 95mg; CALC 14.7mg

Cherry Tomato and Cherry Salad with Parsnip Vanilla Pudding and Lemongrass

We love to explore new flavor combinations that may sound strange but actually make a lot of sense as soon as you taste them together. The sweet and savory qualities of this cherry tomato and cherry salad remind me of some of my favorite elements of Southeast Asian food, yet it feels Italian or French in its composition.

If you look very closely at the picture, you can see the thin veil over the salad, which is gelatinized tomato water. Making a gel of this kind is not as difficult as you might think, and the technique opens the door to a lot of fun textures.

The tomato water in the gel is made by cold infusion, yet another powerful but straightforward technique: basically, steeping herbs in chilled tomato water for several hours. This approach extracts the delicate top notes and avoids cooking them off so that the veil tastes vibrantly of tomatoes and other aromatics.

Herb-Infused Tomato Veil (gelatin):

- 3 pints cherry tomatoes
- 1/2 teaspoon freshly ground black pepper
- 2 tablespoons lemon verbena
- 2 1/2 teaspoons fresh lemon juice
- 1 1/2 teaspoons lime zest
- 1 1/2 teaspoon basil leaves, torn
- 2 tablespoons lemongrass, roughly chopped
- 1/4 teaspoon salt
- 2 sheets gelatin
- 1/2 teaspoon agar
- Cooking spray

Parsnip Vanilla Pudding:

- 3 cups parsnips, peeled and thinly sliced
- 2 cups heavy cream
- 1/4 cup whole milk
- 3/4 cup sugar
- 1 vanilla bean, split lengthwise
- 1/4 teaspoon salt

Cherry Tomato and Cherry Salad:

- 1 pint cherry tomatoes, halved
- 1 pint Bing cherries
- 1 pint Rainier cherries
- 1 1/2 cups thinly sliced Persian cucumber (about 3)
- 3 tablespoons thinly sliced lemongrass
- 2 tablespoons white balsamic vinegar
- 2 tablespoons extra-virgin olive oil
- 1/4 teaspoon salt
- 20 lemon verbena leaves, julienned (about 2 tablespoons)

1. Place tomatoes in a blender and blend to a smooth consistency. Transfer the tomato puree into a fine-mesh sieve lined with two to three layers of cheesecloth. Place the sieve over a bowl and refrigerate overnight. Carefully remove cheesecloth; discard the pulp. Strain the tomato water through a fine-mesh sieve over a bowl.

2. Combine tomato water and next seven ingredients (through salt). Let steep 3–4 hours or overnight. Strain through a fine-mesh sieve over a bowl; discard solids.

3. Soak gelatin sheets in cold water; set aside. Bring 2 tablespoons infused tomato water and agar to a boil in a small saucepan; reduce heat to low. Once gelatin has softened, remove from water and squeeze out excess water. Stir gelatin into agar mixture. Stir in remaining tomato water.
4. Pour tomato water mixture onto a tray or silicone mold lightly coated with cooking spray; let cool slightly. Refrigerate about 2 hours.
5. Line a baking sheet with plastic wrap; lightly coat with cooking spray. Cut 4 (4 inch) rounds from tomato gelatin and place on prepared baking sheet. Refrigerate until ready to use.
6. To prepare the parsnip vanilla pudding, combine all ingredients (except salt) in a large saucepan; bring to a boil. Reduce heat and simmer 1 hour until parsnips are tender. Scrape seeds from bean and stir into parsnip mixture; discard bean pod. Blend parsnip mixture with a handheld blender until smooth. Strain through a fine-mesh sieve over a bowl; discard solids. Stir in salt. Refrigerate until set.
7. To prepare the cherry tomato and cherry salad, combine cherry tomatoes, cherries, cucumber, and lemongrass in a large bowl. Combine vinegar, oil, and salt in a small bowl, stirring with a whisk.
8. To assemble, divide cherry salad evenly among 4 bowls. Drizzle each salad with 1 tablespoon vinegar mixture; sprinkle evenly with lemon verbena. Top each salad with 3 dollops parsnip vanilla pudding (about 1/4 cup) and precut tomato gelatin.

SERVES 4 (serving size: about 2 cups salad and 1/4 cup pudding).

CALORIES 249; FAT 10.2g (sat 2.7g, mono 5.8g, poly 1g); PROTEIN 4.3g; CARB 39.8g; FIBER 5.8g; CHOL 10mg; IRON 1.3mg; SODIUM 205mg; CALC 61mg

Vegetable Ravioli with Pressure-Caramelized Allium Broth and Lemon Oil

There is something magical about making a dish look like a piece of art. A diner may be reluctant to even touch the food, but once the tasting begins, the flavors, aromas, and textures combine with the aesthetic to create a complete food experience.

This vegetable ravioli dish looks snazzy but doesn't require a crew to prepare. The wrappers are made from very thin cross sections of beet, rutabaga, celery root, and spring onion, which we then steam. What vegetable you choose for the wrappers, as well as for the fillings, can shift with the seasons. The ravioli sit in an allium broth of leeks, onions, garlic, and shallots, which we pressure-cook in canning jars until they brown. This pressure-extraction technique allows us to obtain a concentrated jus with much less water than conventional methods.

Vegetable Ravioli Skins:

1 red beet, thinly sliced
1 yellow beet, thinly sliced
1 celery root, peeled and thinly sliced
1 large rutabaga, thinly sliced
1 large red spring onion
Cooking spray
1/4 teaspoon salt

Allium Broth:

3 1/4 cups sweet onion, thinly sliced
1 1/2 cups garlic cloves, thinly sliced
1 1/2 cups leeks, white parts only, thinly sliced
1/2 cup water
1/2 teaspoon salt
1 cup burnet leaves
1 tablespoon lemon-infused olive oil

1. Cut each vegetable (except onion) into a desired circle with a cookie cutter. For the spring onion, carefully peel the outer layer and discard. With a very sharp knife, score onion on either side of the root end and peel off each section, working toward the center. Remove the small center section; discard. Place root vegetable slices and peeled onion halves on a baking sheet coated with cooking spray; sprinkle with salt. Cover with foil and steam 8 minutes (you can also blanch the vegetables for 1 minute). Let cool; refrigerate.

2. Prepare appropriate filling (recipes follow).

3. To prepare allium broth, combine all ingredients (except water and salt) in a large bowl; divide mixture among three (16 ounce) Mason jars. Add water evenly to the three jars. Tighten the lids fully, then unscrew one-quarter turn so the jars do not explode. Heat in a pressure cooker at 15 psi for 1 1/2 hours. Depressurize cooker by running under cold water. Remove jars; let cool slightly before opening. Strain broth through a fine-mesh sieve over a bowl; discard solids. Stir in salt; keep warm.

4. Spoon prepared filling into the center of each vegetable slice. Fold over and press gently to seal the edges. Place on a baking sheet; cover with foil. Bake at 350 °F for 5 minutes or until heated through (you can also steam for 3 minutes).

5. To assemble, divide ravioli evenly among 4 plates. Garnish each plate with 1/4 cup burnet leaves and 1 tablespoon olive oil. Pour 1/4 cup broth over each serving at the table.

SERVES 4 (serving size: 4–6 ravioli and 1/4 cup broth).

Red and Yellow Beet Ravioli Filling:

1/2 cup part-skim ricotta
1/2 teaspoon grated lemon rind
1 ounce grated fresh Parmesan cheese (about 1/4 cup)
1/4 teaspoon salt

1. Combine ingredients in a medium bowl; refrigerate until ready to use.

CALORIES 139; FAT 8g (sat 3.2g, mono 3.8g, poly 0.6g); PROTEIN 7.6g; CARB 10.1g; FIBER 1.6g;
CHOL 16mg; IRON 0.8mg; SODIUM 332mg; CALC 187mg

Celery Root Ravioli Filling:

3/4 cup shiitake mushrooms, minced
2 tablespoons olive oil
2 tablespoons chopped hazelnuts
1/4 teaspoon salt

1. Heat a nonstick skillet over medium-low heat. Add oil; swirl to coat. Add mushrooms; saut 12 minutes or until tender. Remove from heat and add hazelnuts and salt. Let cool; refrigerate until ready to use.

CALORIES 191; FAT 13.1g (sat 1.3g, mono 8.6g, poly 2.9g); PROTEIN 4.4g; CARB 16.8g; FIBER 3.2g; CHOL 0mg;
IRON 1.5mg; SODIUM 268mg; CALC 70mg

Rutabaga Ravioli Filling:

1/2 cup broccoli florets
2 tablespoons canola oil
Dash of black pepper
1/4 teaspoon salt
1 1/4 teaspoons cr me fra che

1. Heat a nonstick skillet over medium-low heat. Add oil; swirl to coat. Add broccoli; saut until tender. Sprinkle with salt and pepper. Let cool; add cr me fra che. Refrigerate until ready to use.

CALORIES 167; FAT 9g (sat 1.8g, mono 4.7g, poly 1.6g); PROTEIN 3.4g; CARB 20.2g; FIBER 5.5g;
CHOL 4mg; IRON 1.4mg; SODIUM 195mg; CALC 111mg

Spring Onion Ravioli Filling:

3 small leeks, white part only, finely diced
2 tablespoons canola oil
1/2 cup cauliflower florets
1/4 teaspoon salt
1 1/2 tablespoons fresh tarragon, finely chopped

1. Saut leeks until translucent; add the cauliflower florets and cook until tender. Season with salt. Cool and fold in tarragon. Set aside.

CALORIES 137; FAT 10.6g (sat 1g, mono 6.9g, poly 2.4g); PROTEIN 1.6g; CARB 10.4g; FIBER 1.5g; CHOL 0mg; IRON
1.2mg; SODIUM 164mg; CALC 48mg

Pea Puree Ravioli Filling:

1 cup fresh peas, shelled

1/4 teaspoon salt

Dash of ground cinnamon

1. Blanch peas until tender; drain. Puree until smooth; stir in salt and cinnamon. Let cool; refrigerate until ready to use.

CALORIES 79; FAT 3.6g (sat 0.5g, mono 2.5g, poly 0.5g); PROTEIN 2.7g; CARB 9.8g; FIBER 2.4g;
CHOL 0mg; IRON 0.9mg; SODIUM 302mg; CALC 30mg