

Synaesthetic drinkware

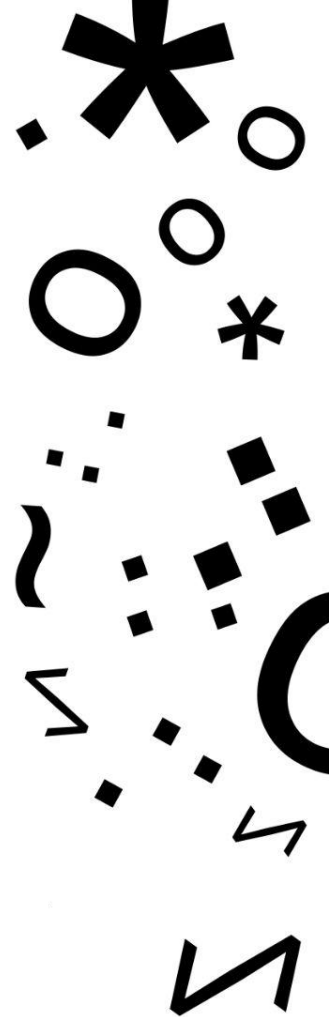
Leung Hoi Laam Michelle



Dining ware design has been a historical emphasis on mass production, standardization, durability, and convenience. Dining experiences has extends beyond just the food itself. Every aspect, from the presentation and aroma to the texture and sensation, has the potential to engage and delight our senses.

One captivating phenomenon in this context is **synaesthesia**—a neurological condition where stimulation in one sensory modality triggers experiences in another. Interestingly, synaesthesia can also be learned and applied metaphorically. The focus of this research project is to explore the **emotional** and **sensory** aspects of synaesthetic adaptation in the overall dining experience. The ultimate objective is to **enhance the creative and sensory enjoyment of dining of the user, irrespective of whether individuals possess is a synesthete.**

I will work on a set of **drinkware** for this project. The design will be a merge of elements representing the associations between flavor, visuals, and sound. Based on research, interviews, and experiments, **there is a demonstrated connectivity between visual, tactile, and flavor associations.** For example, sweet is associated with rounder shapes whereas spicy is associated with spiky shapes. The chosen materials are bone china and earthenware, which will be utilized through the casting method to provide a refined, finished aesthetic to the final products. The design style will be minimalist, prioritizing functionality and practicality.



Research on taste-shape associations in the human brain suggests that people systematically match taste with shapes. Cross-modal correspondences between taste and visual shape features demonstrate non-random associations, which can influence taste expectations and experiences.

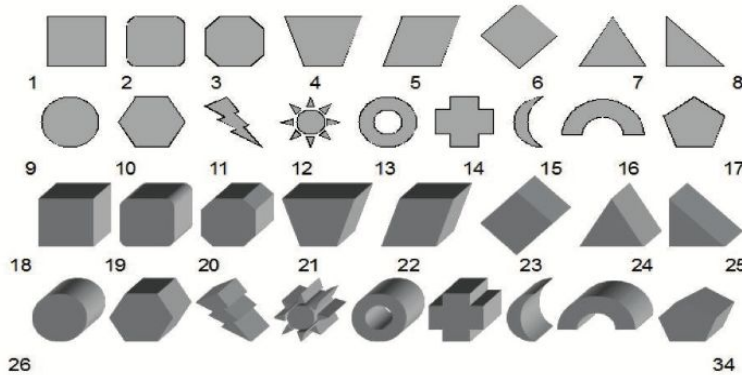


Fig. 1 Set of shapes that was provided to the participant to chose (Deroy and Valentin, 2011)
<https://www.researchgate.net/publication/270682549> On the shapes of flavours A review of four hypotheses

- Sweet : voluminous, rounded shapes
- > Sour : flatter shapes

# n= 250	Taste	Circle (1) %	Square (2) %	Star (3) %	Spiral (4) %	Free form (5) %	Do not apply %
1	Salty	23,65	35,64	6,96	5,76	5,4	9,35
2	Acid	4,3	7,2	21,75	22,4	9	15,4
3	Sweet and Sour	18,92	7,2	8,41	15,36	23,85	17,05
4	Spicy	1,29	6,12	39,15	15,04	3,6	7,15
5	Sweet	42,57	2,16	4,06	2,56	42,3	2,2
6	Bitter	4,73	27,72	6,96	15,68	7,65	23,1
7	Sour	4,3	12,96	13,05	22,4	6,75	25,85

n = 250	Emotion	Circle (1) %	Square (2) %	Star (3) %	Spiral (4) %	Free form (5) %	Do not apply %
1	Disgusted	1,68	6,25	1,92	24,99	3,78	15,48
2	Happy	11,13	1,75	25,92	2,52	10,26	1,08
3	Aggressive	1,26	6,5	14,64	14,49	2,97	15,84
4	Bored	9,24	23,75	0,96	6,93	6,48	6,12
5	Worried	3,15	17	4,56	11,76	7,56	10,8
6	Nostalgic	7,56	4,75	6,96	6,09	21,6	8,28
7	Interested	11,13	5	17,28	4,2	4,86	12,6
8	Safe	22,47	19,5	2,64	0,63	2,97	2,52
9	Free	6,3	1,75	6,24	14,28	18,09	6,84
10	Challenged	2,94	7	15,12	13,02	2,43	15,84
11	Calm	22,05	4,75	2,16	1,05	18,9	3,96

Fig. 2 Survey results of the shapes, taste, and emotions experiment
<https://www.researchgate.net/publication/325827947> Designing emotional triggers for food experiences

- . . * Sweet, salty, spicy : Positive emotions
- > < Bitter, sour : Negative emotions

Taste
(flavour)



synaesthetic associations between

Sound
(pitch, rhythm, pace)

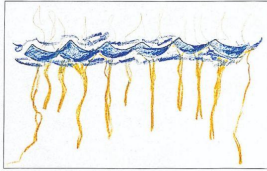


Visuals
(colour, shape, texture)



Salty

✦ How does 'Saltiness' look like?
You can draw any shapes, form, colour or even scenarios!

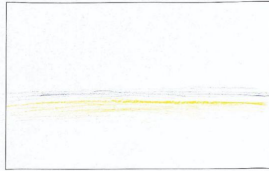


How does 'Saltiness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Saltiness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

12, 6

How does 'Saltiness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Saltiness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Saltiness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

13, 1

How does 'Saltiness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Saltiness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Saltiness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

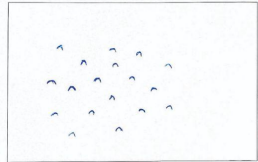
7, 17

Subtle and mild

Dotted, grainy

Crumbles on the surface

How does 'Saltiness' look like?
You can draw any shapes, form, colour or even scenarios!

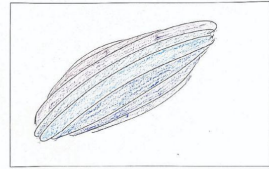


How does 'Saltiness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Saltiness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

8, 5

How does 'Saltiness' look like?
You can draw any shapes, form, colour or even scenarios!

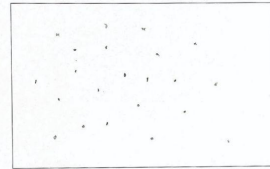


How does 'Saltiness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Saltiness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

NO. 14 & NO. 18

How does 'Saltiness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Saltiness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Saltiness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

18 & 14

Bitter

How does 'Bitterness' look like?
You can draw any shapes, form, colour or even scenarios!

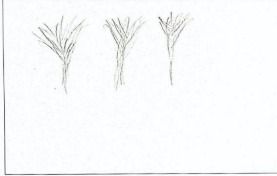


How does 'Bitterness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Bitterness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

3, 6

How does 'Bitterness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Bitterness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Bitterness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

4, 11

How does 'Bitterness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Bitterness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Bitterness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

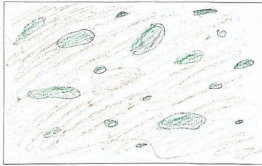
3, 15

Green coloured

Calm

Carved hollow - Lingering aftertaste

How does 'Bitterness' look like?
You can draw any shapes, form, colour or even scenarios!

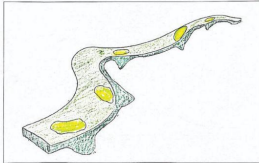


How does 'Bitterness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Bitterness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

1, 2

How does 'Bitterness' look like?
You can draw any shapes, form, colour or even scenarios!

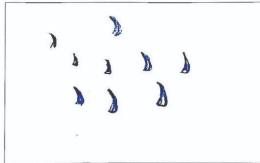


How does 'Bitterness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Bitterness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

NO.1 & NO.12

How does 'Bitterness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Bitterness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Bitterness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

16 x 11+

Sour

How does 'Sourness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Sourness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Sourness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

5, 7

How does 'Sourness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Sourness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Sourness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

3, 8

How does 'Sourness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Sourness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Sourness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

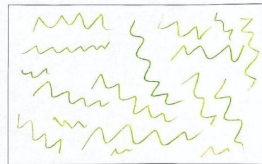
1, 12

Frizz

Fresh but stinging

Earthy, flowy, gentle

How does 'Sourness' look like?
You can draw any shapes, form, colour or even scenarios!

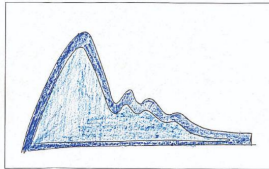


How does 'Sourness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Sourness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

16, 4

How does 'Sourness' look like?
You can draw any shapes, form, colour or even scenarios!

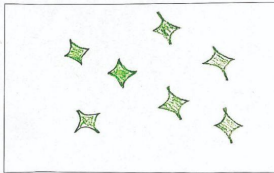


How does 'Sourness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Sourness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

10, 11 9, 10, 13

How does 'Sourness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Sourness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Sourness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

15

Sweet

How does 'Sweetness' look like?
 You can draw any shapes, form, colour or even scenarios!
 (! Imagine sweetness is a fairy eating cotton candy on the clouds :D)

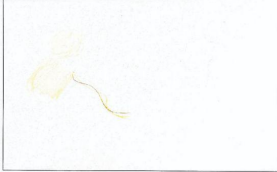


How does 'Sweetness' sound like?
 You can use these ceramics shards to create any sound pattern!

How does 'Sweetness' feel like?
 You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

2, 4

How does 'Sweetness' look like?
 You can draw any shapes, form, colour or even scenarios!
 (! Imagine sweetness is a fairy eating cotton candy on the clouds :D)



How does 'Sweetness' sound like?
 You can use these ceramics shards to create any sound pattern!

How does 'Sweetness' feel like?
 You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

15, 17

How does 'Sweetness' look like?
 You can draw any shapes, form, colour or even scenarios!
 (! Imagine sweetness is a fairy eating cotton candy on the clouds :D)



How does 'Sweetness' sound like?
 You can use these ceramics shards to create any sound pattern!

→ Sweet, Sun
 → high pitch
 → others
 → low

How does 'Sweetness' feel like?
 You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

2, 8

Yellow coloured

Rounded and soft

How does 'Sweetness' look like?
 You can draw any shapes, form, colour or even scenarios!
 (! Imagine sweetness is a fairy eating cotton candy on the clouds :D)

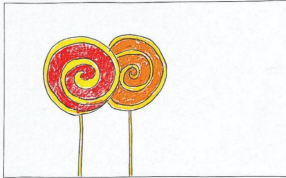


How does 'Sweetness' sound like?
 You can use these ceramics shards to create any sound pattern!

How does 'Sweetness' feel like?
 You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

10, 3

How does 'Sweetness' look like?
 You can draw any shapes, form, colour or even scenarios!
 (! Imagine sweetness is a fairy eating cotton candy on the clouds :D)



How does 'Sweetness' sound like?
 You can use these ceramics shards to create any sound pattern!

How does 'Sweetness' feel like?
 You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

NO.10 & NO.6

How does 'Sweetness' look like?
 You can draw any shapes, form, colour or even scenarios!
 (! Imagine sweetness is a fairy eating cotton candy on the clouds :D)



How does 'Sweetness' sound like?
 You can use these ceramics shards to create any sound pattern!

How does 'Sweetness' feel like?
 You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

8 & 3

Spicy

How does 'Spiciness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Spiciness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Spiciness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

9, 14

How does 'Spiciness' look like?
You can draw any shapes, form, colour or even scenarios!

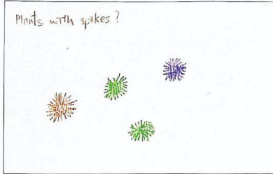


How does 'Spiciness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Spiciness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

16, 13

How does 'Spiciness' look like?
You can draw any shapes, form, colour or even scenarios!



How does 'Spiciness' sound like?
You can use these ceramics shards to create any sound pattern!

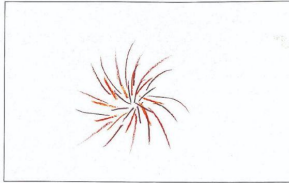
How does 'Spiciness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

9, 11

Spiky, aggressive

Red coloured

How does 'Spiciness' look like?
You can draw any shapes, form, colour or even scenarios!

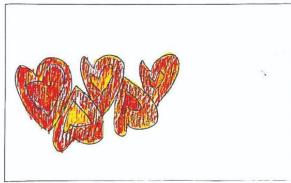


How does 'Spiciness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Spiciness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

9, 13

How does 'Spiciness' look like?
You can draw any shapes, form, colour or even scenarios!

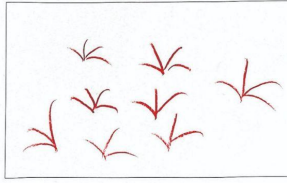


How does 'Spiciness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Spiciness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

NO. 9 & NO. 11
NO. 13 & NO. 16

How does 'Spiciness' look like?
You can draw any shapes, form, colour or even scenarios!



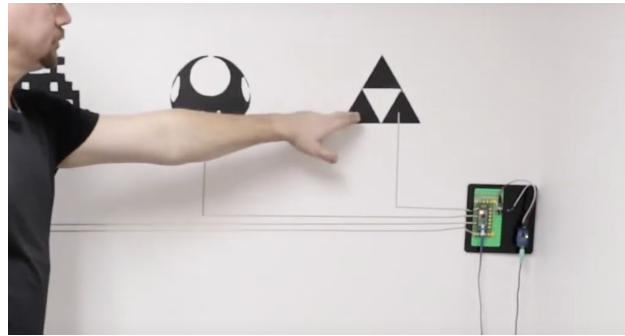
How does 'Spiciness' sound like?
You can use these ceramics shards to create any sound pattern!

How does 'Spiciness' feel like?
You can choose (up to 2) the following texture patterns or make your own! (no.1-18)

9 & 11



Fig. 3 Ceramic cutlery by Jinhyun Jeon



The temperature influences certain changes to the taste. Sugar starts to taste sweeter at body temperature. Salty tastes become stronger when the temperature drops. A sour taste will always be a sour taste when the temperature rises or drops. Bitterness decreases as the temperature rises above the body temperature.



Fig. 4 Plastic cutlery by Jinhyun Jeon

<https://www.dezeen.com/2012/11/18/tableware-as-sensorial-stimuli-cutlery-by-jinhyun-jeon/>



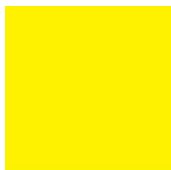
Fig. 5 Clement Zheng's conductive ceramics

<https://www.dezeen.com/2023/03/15/clement-zheng-conductive-ceramics-control-sound-sense-moisture/#>
<https://www.instructables.com/MP3-Playing-Sound-FX-Wall/>

- / Temperature
- / Texture
- / Colour
- / Volume and weight
- / Way to taste the drink/food
- / Sound

Sweetnes

Brandy Alexander



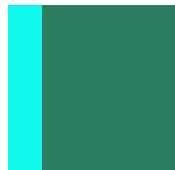
Sourness

Whisky sour



Bitterness

Dry martini



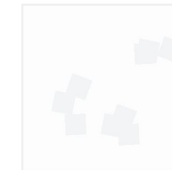
Spiciness

Bloody Mary



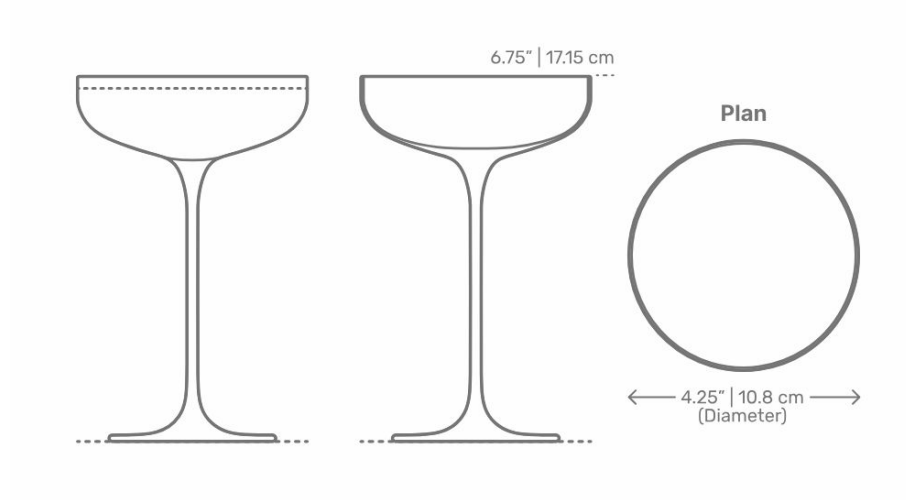
Saltiness

Barrel Aged Soy Old Fashioned



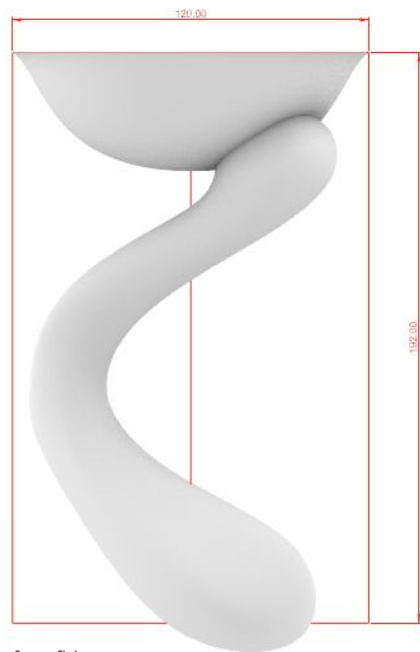
Coupe glass

180-240 ml

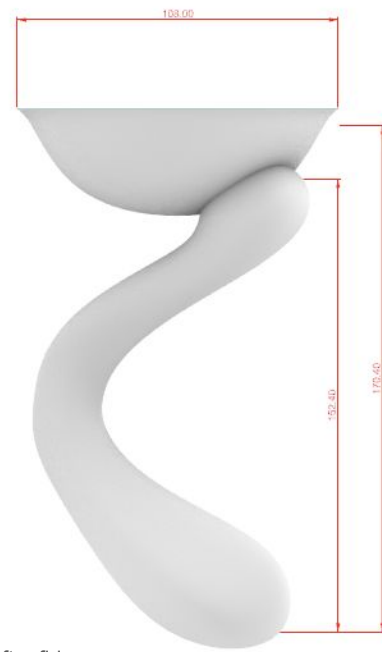


Coupe glass for
Brandy Alexander





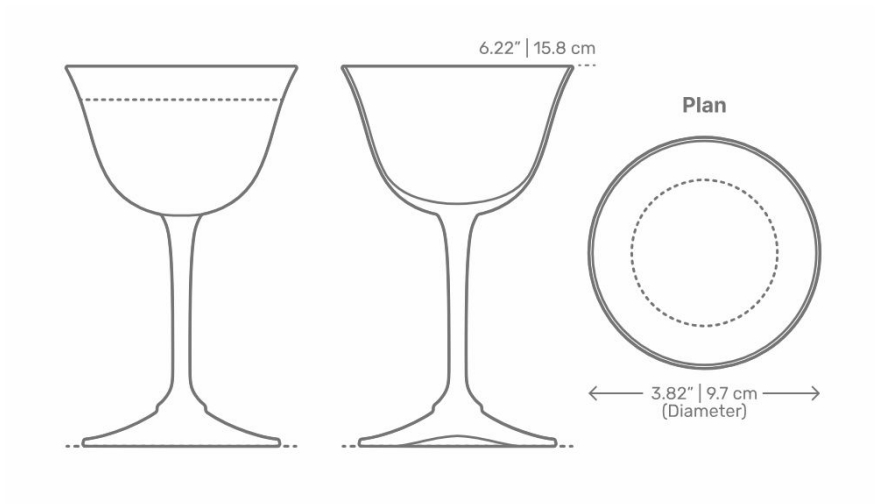
Before firing



After firing

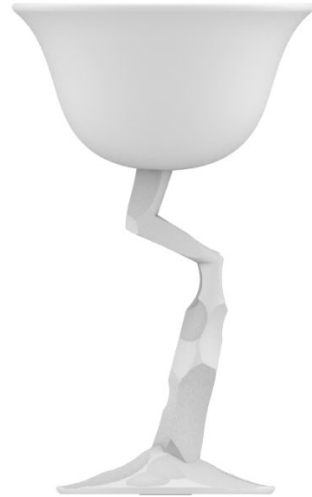
Sour glass

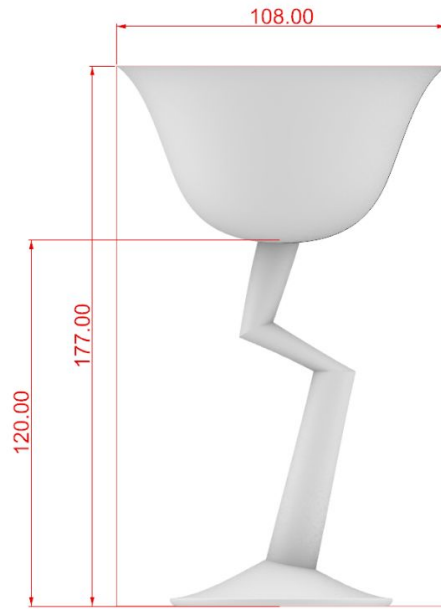
200 ml



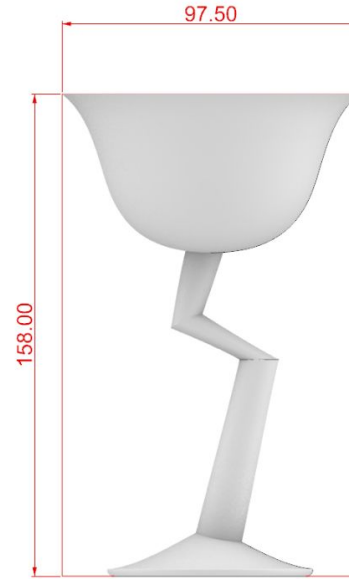
Sour glass for
Whisky Sour

Sour





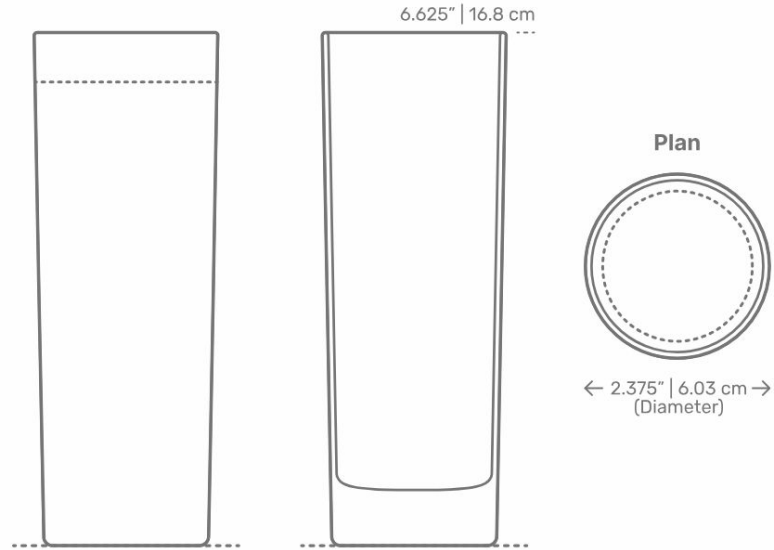
Before firing



After firing

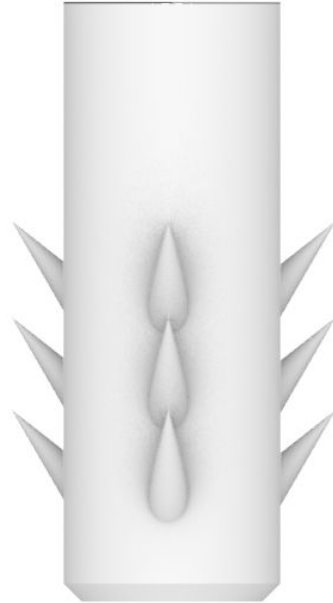
Highball glass

240-350 ml



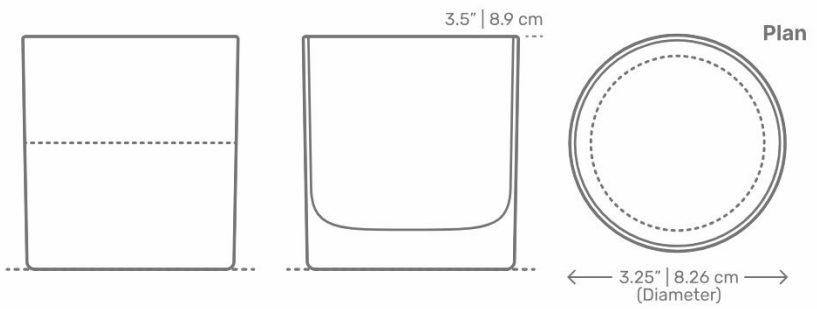
Highball glass for
Bloody Mary

Spicy



Lowball glass

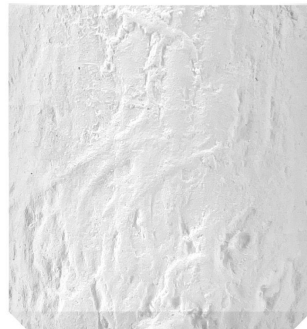
180-300 ml



Lowball glass for

Salty

Barrel Aged Soy Old Fashioned



Martini glass

150-200 ml

