

TABLE 3. SENSORY LEXICON DESCRIBING VISUAL, ODOR, FLAVOR AND MOUTHFEEL CHARACTERISTICS OF HIBISCUS TEAS

Modalities and descriptors		Definition	Reference standard
Appearance			
Color (couleur; cor)	Intensity (intensité; intensidade)	Related to lighter (less intense) or darker (more intense) color.	50 ml reference hibiscus tea
	Red hue (teinte; matiz)	Related to hue value (Munsell color system); varies between red, purple and blue	50 ml reference hibiscus tea
Clarity (clarté; limpidez)	Transparency/translucency (transparence/translucidité, transparência/translucência)	Related to the ability of seeing through the sample	100 NTU Turbidity standard
Viscosity (viscosité; viscosidade)	Viscosity (viscosité; viscosidade)	Related to resistance to flow. Evaluated by observing the displacement of the sample by swirling the tasting glass, to have the beverage wetting its inner surface. Varies from fluid to viscous.	Hibiscus syrup (undiluted) (Société Esteval Agro Alimentaire, Dakar, Senegal)
Odor and aroma			
Floral (floral; floral)	Hibiscus (hibiscus; hibisco)	Fragrant aromatics with sweet, sour, berry and candy like notes characteristic of reminiscent odor of dry hibiscus calyces	Odor: 10g shade-dried, coarsely ground, Vimto and Koor (50:50) hibiscus calyx blend (Racines SA, France) Flavor: reference hibiscus tea
Fruit (berry) [fruit (baie); frutado (frutos silvestres)]	Aronia/Cranberry (aronia/ canneberge; aronia/arando)	Sweet and sharp berry aromatics found on a blend of aronia and cranberry juices	50 ml aronia and cranberry juice (50:50) blend (ProSain SAS, France)
	Raspberry (framboise; framboesa)	Sweet and sour aromatics commonly associated with raspberries	50g crushed raspberries (fresh or frozen)
	Sour cherry (griotte; ginja)	Slightly sweet and sour aromatics commonly associated with sour cherries	50g crushed sour cherries (fresh or frozen)
Fruit (dry) [fruit (sec); fruto seco] Sweet associated (doux; doce)	Raisin (raisin sec ; uva passa)	Sweet aromatics with molasses notes commonly associated with raisins	50g raisins (Ferbar, Lda. Portugal)
	Honey (miel; mel) Cold black tea (thé noir froid; chá preto frio)	Sweet aromatics associated with bee honey	50g rosemary honey (Euromel, Lda., Portugal)
Herbaceous (herbacée; herbaceo)	Hay (foin, feno)	Sweet and sharp aromatics associated to a cold, not freshly brewed, black tea infusion	50 ml Assan tea
Extraneous			
Extraneous (étranger, estranho)	Botanical* (botanical, botanico)	Aromatics associated to contamination of hibiscus calyces by extraneous botanical material	10g dry or 50g fresh plant material
	Spice * (épices, especiarias)	Aromatics associated to contamination of hibiscus calyces by spices	10g of ground commercial spice mix (cinnamon, cumin, cardamom, black pepper, fennel, turmeric, cilantro) (local store, Oporto, Portugal)
	Fermented (fermenté, fermentado)	Pungent, alcoholic and/or yeasty and/or sour odor or flavor indicating the occurrence of fermentation and consequent quality degradation	25 ml of diluted sauerkraut' juice (1:2) (Beutelsbacher Fruchtsaftkellerei, GmbH)
	Irritant (irritant, irritante)	That has a foreign and sharp sensation of the buccal and nasal mucous membranes	25 ml of diluted white wine vinegar (1:2) (Comtemp, Portugal)
Taste and mouthfeel			
Basic taste (saveur élémentaire, sabor básico)	Acid (acide, ácido)	Basic taste of substances such as malic acid	1.50 gL ⁻¹ malic acid solution
	Sweet (doux, doce)	Basic taste of substances such as sucrose	100 gL ⁻¹ sucrose solution
	Bitter (amer, amargo)	Basic taste of substances such as caffeine or quinine	0.75 g/l caffeine solution
Mouthfeel (sensation en bouche, sensação tátil bucal)	Astringent (astringent, adstringente)	Shrinking, drawing or puckering of the mucosal surface in the mouth, produced by substances like tannins	0.5 g/l tannic acid solution
	Viscous (visqueux, viscoso)	Related to resistance to flow. Evaluated by displacing of sample in the mouth. Varies from fluid to viscous.	Hibiscus syrup (undiluted) (Société Esteval Agro Alimentaire, Dakar, Senegal)

*Adapted from Plotto, Mazaud, Röttger, and Steffel (2004)

Reference hibiscus tea: 4 g of shade-dried ground (particle size: 1mm - 2.8 mm) Vimto and Koor (50:50) hibiscus calyx blend extracted with 100g of water at 95-100°C, left to stand for 30 min with periodic agitation and then filtered (1 mm sieve). Sweetened with 130 gL⁻¹ commercial sucrose.

Assan tea: 1 g of Assam tea (Lypton Yellow Label) extracted with 100 g of water at 95 °C for 5 min and left to stand overnight at ambient temperature.