

Result of reproducibility test

Intelligent Sensor Technology, Inc.

Feb. 27th, 2008

Method

- Definition

"Reproducibility" in this case means a variation in sensor outputs of 10 measurements of the durability test.

- Kinds of sensors: 3

- 1) C00 (for bitterness)
- 2) AE1(for astringency)
- 3) AAE (for umami)

- Number of sensors: 4 (All sensors are in different lot)

Error bar shows standard deviation of 4 sensors.

- Measurement procedure: 10 times

- 1) maintenance measurement (7 kinds of samples, 2 times)

- 2) washing test: 1000 times washing with alcohol solution

maintenance measurement is to measure the followings.

- a) Reference solution: 30mM KCl + 0.3mM tartaric acid
- b) Salty sample: 300mM KCl + 0.3mM tartaric acid
- c) Sour sample: 30mM KCl + 3mM tartaric acid
- d) Umami sample: 30mM KCl + 0.3mM tartaric acid + 10mM MSG
- e) Bitter (+) sample: 30mM KCl + 0.3mM tartaric acid + 0.1mM quinine hydrochloride
- f) Bitter (-) sample: 30mM KCl + 0.3mM tartaric acid + 0.01% iso-a acid
- g) Astringency sample: 30mM KCl + 0.3mM tartaric acid + 0.05% tannin acid

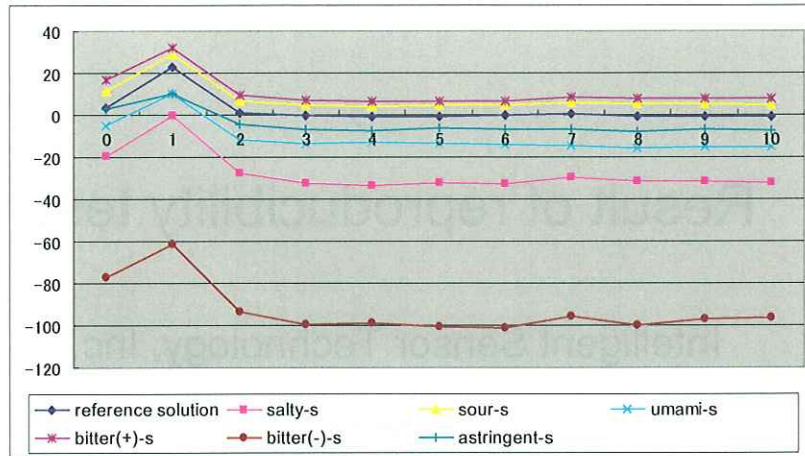


Figure.1 Reproducibility of relative value of C00

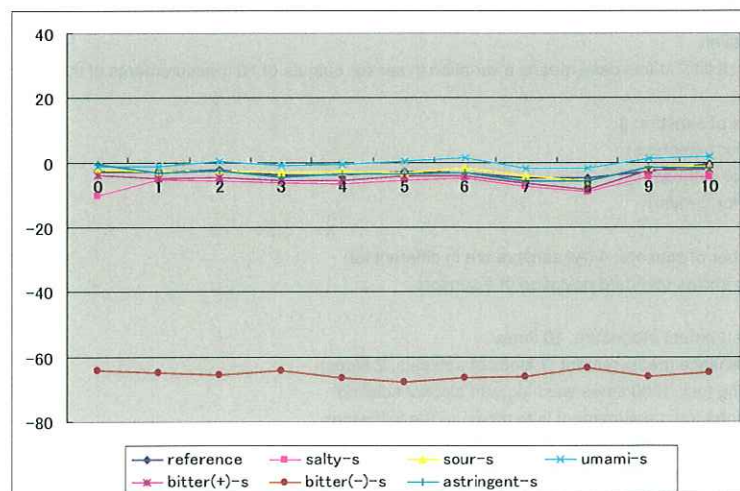


Figure.2 Reproducibility of CPA value of C00

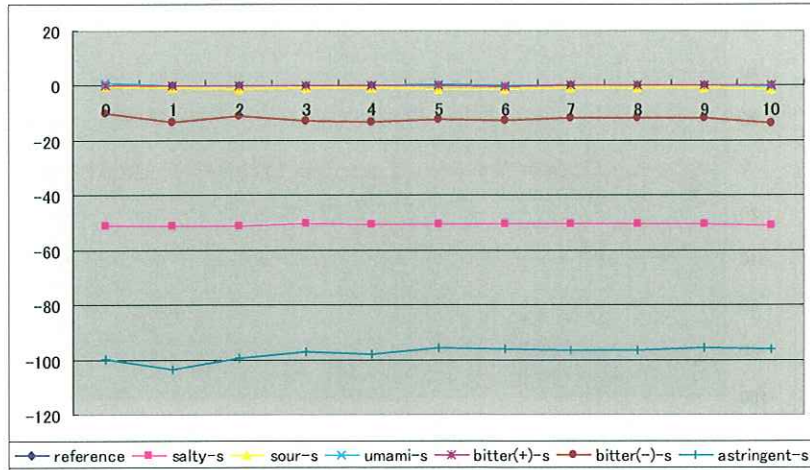


Figure.3 Reproducibility of relative value of AE1

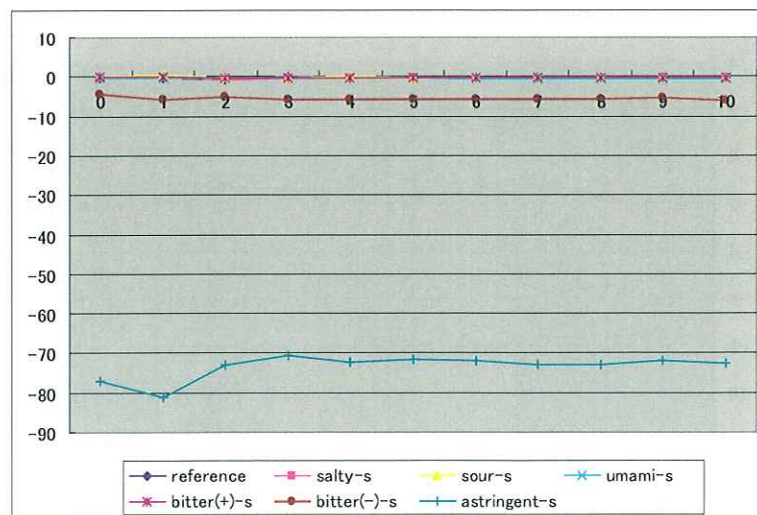


Figure.4 Reproducibility of CPA value of AE1

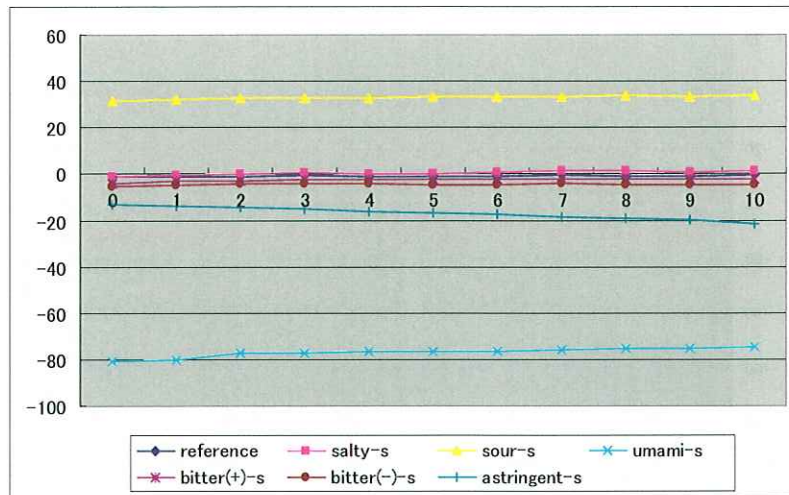


Figure.5 Reproducibility of relative value of AAE

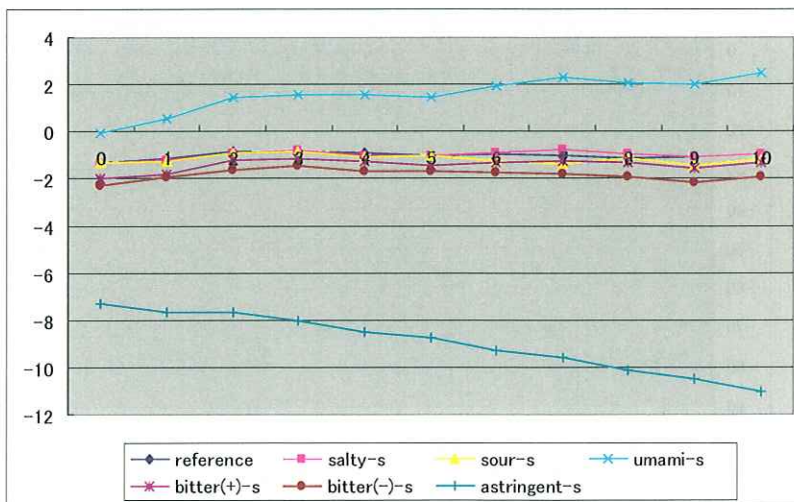


Figure.6 Reproducibility of CPA value of AAE

Result of repeatability test

Intelligent Sensor Technology, Inc.

Feb. 27th, 2008

Method

- Definition

"Repeatability" in this case means a variation in sensor outputs with 3 cycles in a measurement.

- Kinds of sensors: 5

- 1) AAE (for umami)
- 2) CT0 (for saltiness)
- 3) CA0 (for sourness)
- 4) C00 (for bitterness)
- 5) AE1 (for astringency)

- Number of sensor: 1

Error bar shows standard deviation of sensor outputs with 3 cycles.

- Measurement procedure: 3 cycles of maintenance measurement

maintenance measurement is to measure the followings.

- a) Reference solution: 30mM KCl + 0.3mM tartaric acid
- b) Salty sample: 300mM KCl + 0.3mM tartaric acid
- c) Sour sample: 30mM KCl + 3mM tartaric acid
- d) Umami sample: 30mM KCl + 0.3mM tartaric acid + 10mM MSG
- e) Bitter (+) sample: 30mM KCl + 0.3mM tartaric acid + 0.1mM quinine hydrochloride
- f) Bitter (-) sample: 30mM KCl + 0.3mM tartaric acid + 0.01% iso-a acid
- g) Astringency sample: 30mM KCl + 0.3mM tartaric acid + 0.05% tannin acid

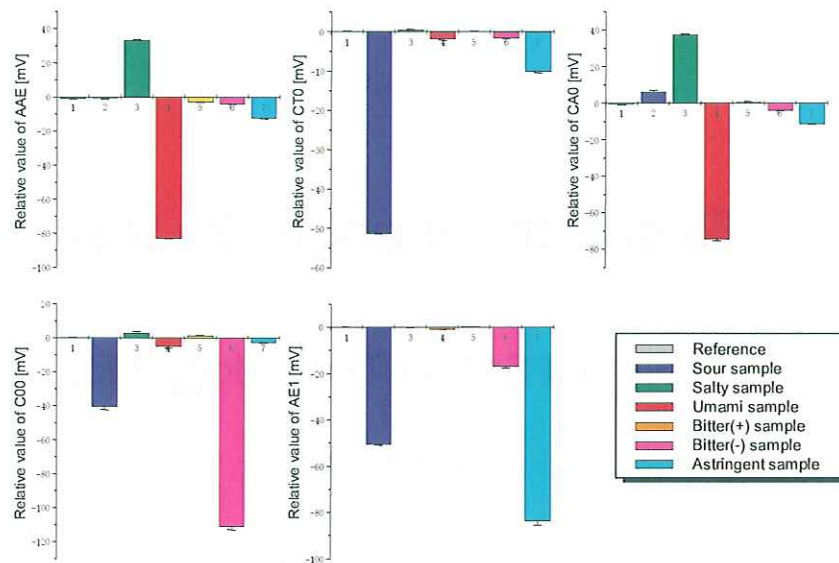


Figure.1 Repeatability of relative value of all sensors

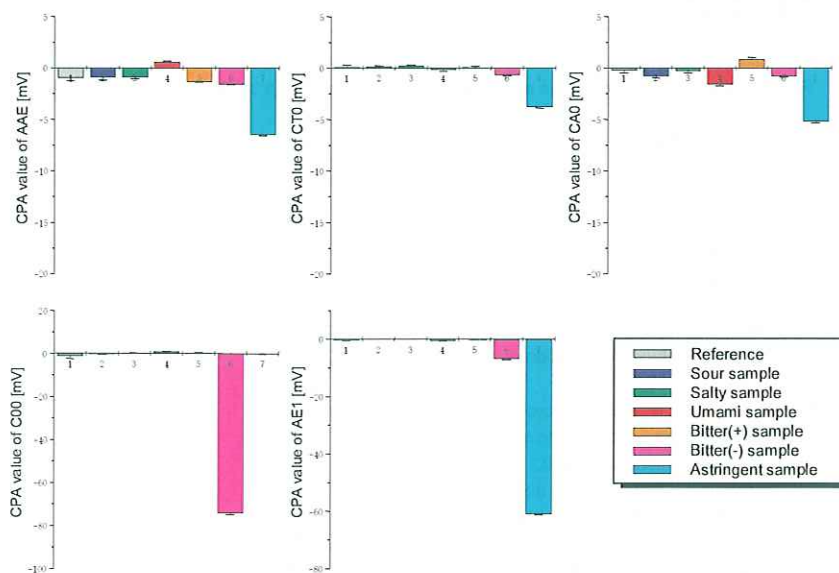


Figure.2 Repeatability of CPA value of all sensors

標準範囲	AAE	CTO	CAO	C00	AE1	CPA (AAE)	CPA (CTO)	CPA (CAO)	CPA (C00)	CPA (AE1)
塩味サンプル	-25～25	-65～-40	-20～20	-45～-15	-65～-40	-5～5	-15～15	-15～15	-20～20	-15～15
酸味サンプル	20～40	-15～15	30～45	-25～25	-20～20	-5～5	-15～15	-15～15	-20～20	-15～15
旨味サンプル	-100～-65	-15～15	-100～-50	-40～25	-20～20	-10～15	-15～15	-15～15	-20～20	-15～15
苦味(+)サンプル	-25～25	-15～15	-10～10	-25～25	-20～20	-5～5	-15～15	-15～15	-20～20	-15～15
苦味(-)サンプル	-25～25	-15～15	-15～10	-130～-70	-30～20	-5～5	-15～15	-15～15	-90～-40	-15～15
渋味サンプル	-25～25	-20～15	-20～10	-25～25	-120～-50	-15～5	-15～15	-15～15	-20～20	-80～-40