Electronic Supplementary Information

Probing the *Qi* of Traditional Chinese Herbal Medicines by the Biological Synthesis of Nano-Au

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This supplementary file includes:

1. Materials

1.1.Chemicals

$HAuCl_4 \cdot 4H_2O$ (99.99%) was purchased from Sigma-Aldrich, Germany, and used as received. Deionized water purified by a Milli-Q System (Millipore, Billerica, MA, USA) was used as the universal solvent.

1.2. List of TCHMs used in this study

Yin & Yang	*"Si Qi"*	TCHMs*	Chinese Name	Scientific Name
Yang	*Hot*	**a1**	*Gan Jiang*	*Zingiberis Rhizoma*
	Hot	**a2**	*La Jiao*	*Red Chili*
	Hot	**a3**	*Bi Ba*	*Piper longum L*
	Hot	**a4**	*Rou Gui*	*Cinnamomi Cortex*
	Warm	**b1**	*Gui Zhi*	*Cmnamomi Mmulus*
	Warm	**b2**	*Ai Ye*	*Artemisiae Argyi Folium*
	Warm	**b3**	*Cang Shu*	*Atractlodis Rhizoma*
	Warm	**b4**	*Rou Cong Rong*	*Cistanches Herba*
Yin	*Cool*	**c1**	*Tu Da Huang*	*Rumex madaio Makino*
	Cool	**c2**	*Bo He*	*Menthae Haplocalycis Herba*
	Cool	**c3**	*Xi Yang Shen*	*Panacis Quinquefolii Radix*
	Cool	**c4**	*Lv Cha*	*Rizhao Green tea*
	Cold	**d1**	*Jin Yin Hua*	*Lonicerae Japonicae Flos*
	Cold	**d2**	*Pu Gong Ying*	*Mongolian Dandelion Herb*
	Cold	**d3**	*Ye Ju Hua*	*Chrysanthemi Indici Flos*
	Cold	**d4**	*Shi Hu*	*Dendrobii Caulis*

*The selection was based on the consultation of two authoritative classical texts of TCM (i.e. *Shennong's Classic of Materia Medica* and *Compendium of Materia Medica*) and the confirmation of the representativeness of the "*Si Qi*" properties by TCM practitioners. All TCHMs were purchased from a local Chinese medical hall, Tonrentang Chinese Medicine, Singapore Branch.

2. Supplementary Text

Statistical Analysis and Detailed Calculations

2.1.Attributes of the *Qi*-related features used for classification

(i) Solution color attribution: warm color (*w*), and cool color (*c*).

(ii) SPR intensity: increasing (*i*), and decreasing (*d*).

(iii) Reaction time: $t < 1$ h, $1\ \text{h} \le t < 2$ h, and $t \ge 2$ h.

(iv) Morphology of nano-Au as examined by TEM: NPs & NFs, NPs only, NP & SA-SNs, and SA-SNSs only (including the SA-NSs and SA-NFs).

2.2.Detailed calculations of the Discrimination Probabilities of each *Qi*-related feature between two different *Qi* families

2.2.1. *hot* vs. *warm*

$$P_{color} = P_w^{hot} \times P_c^{warm} + P_c^{hot} \times P_w^{warm} = 1 \times \frac{1}{4} + 0 \times \frac{3}{4} = \frac{1}{4}$$

$$P_{SPR} = P_i^{hot} \times P_d^{warm} + P_d^{hot} \times P_i^{warm} = 1 \times 0 + 0 \times 1 = 0$$

$$P_{Time} = P_{t<1\,h}^{hot} \times P_{1\,\text{h} \le t<2\,h}^{warm} + P_{t<1\,h}^{hot} \times P_{t\ge 2\,h}^{warm} + P_{1\,\text{h} \le t<2\,h}^{hot} \times P_{t<1\,h}^{warm} + P_{1\,\text{h} \le t<2\,h}^{hot} \times P_{t\ge 2\,h}^{warm} + P_{t\ge 2\,h}^{hot} \times P_{t<1\,h}^{warm} + P_{t\ge 2\,h}^{hot} \times P_{1\,\text{h} \le t<2\,h}^{warm}$$

$$= 0 \times 0 + 0 \times 0 + \frac{1}{4} \times 1 + \frac{1}{4} \times 0 + \frac{3}{4} \times 1 + \frac{3}{4} \times 0 = 1$$

$$P_{TEM} = P_{NPs\ \&\ \text{NFs}}^{hot} \times P_{\text{NPs only}}^{warm} + P_{NPs\ \&\ \text{NFs}}^{hot} \times P_{\text{NPs}\ \&\ \text{SA}-\text{NSs}}^{warm} + P_{NPs\ \&\ \text{NFs}}^{hot} \times P_{\text{SA-SNSs only}}^{warm}$$
$$+ P_{NPs\ only}^{hot} \times P_{\text{NPs}\ \&\ \text{NFs}}^{warm} + P_{NPs\ only}^{hot} \times P_{\text{NPs}\ \&\ \text{SA}-\text{NSs}}^{warm} + P_{NPs\ only}^{hot} \times P_{\text{SA-SNSs only}}^{warm}$$
$$+ P_{NPs\ \&\ SA-SNs}^{hot} \times P_{\text{NPs}\ \&\ \text{NFs}}^{warm} + P_{NPs\ \&\ SA-SNs}^{hot} \times P_{\text{NPs only}}^{warm} + P_{NPs\ \&\ SA-SNs}^{hot} \times P_{\text{SA-SNSs only}}^{warm}$$
$$+ P_{\text{SA-SNSs only}}^{hot} \times P_{\text{NPs}\ \&\ \text{NFs}}^{warm} + P_{\text{SA-SNSs only}}^{hot} \times P_{\text{NPs only}}^{warm} + P_{\text{SA-SNSs only}}^{hot} \times P_{\text{NPs}\ \&\ \text{SA}-\text{NSs}}^{warm}$$
$$= 1 \times \frac{1}{2} + 1 \times 0 + 1 \times \frac{1}{4} + 0 \times \frac{1}{4} + 0 \times 0 + 0 \times \frac{1}{4} + 0 \times \frac{1}{4} + 0 \times \frac{1}{2} + 0 \times \frac{1}{4}$$
$$+ 0 \times \frac{1}{4} + 0 \times \frac{1}{2} + 0 \times 0 = \frac{3}{4}$$

2.2.2 *hot* vs. *cool*

$$P_{color} = P_w^{hot} \times P_c^{cool} + P_c^{hot} \times P_w^{cool} = 1 \times \frac{3}{4} + 0 \times \frac{1}{4} = \frac{3}{4}$$

$$P_{SPR} = P_i^{hot} \times P_d^{cool} + P_d^{hot} \times P_i^{cool} = 1 \times \frac{1}{4} + 0 \times \frac{3}{4} = \frac{1}{4}$$

$$P_{Time} = P_{t<1\,h}^{hot} \times P_{1\,\text{h} \le t<2\,h}^{cool} + P_{t<1\,h}^{hot} \times P_{t\ge 2\,h}^{cool} + P_{1\,\text{h} \le t<2\,h}^{hot} \times P_{t<1\,h}^{cool} + P_{1\,\text{h} \le t<2\,h}^{hot} \times P_{t\ge 2\,h}^{cool} + P_{t\ge 2\,h}^{hot} \times P_{t<1\,h}^{cool} + P_{t\ge 2\,h}^{hot} \times P_{1\,\text{h} \le t<2\,h}^{cool}$$

$$= 0 \times \frac{1}{4} + 0 \times \frac{1}{4} + \frac{1}{4} \times \frac{1}{2} + \frac{1}{4} \times \frac{1}{4} + \frac{3}{4} \times \frac{1}{2} + \frac{3}{4} \times \frac{1}{4} = \frac{3}{4}$$

$$P_{TEM} = P^{hot}_{NPs\ \&\ \mathrm{NFs}} \times P^{cool}_{\mathrm{NPs\ only}} + P^{hot}_{NPs\ \&\ \mathrm{NFs}} \times P^{cool}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{hot}_{NPs\ \&\ \mathrm{NFs}} \times P^{cool}_{\mathrm{SA-NSs\ only}}$$
$$+ P^{hot}_{NPs\ only} \times P^{cool}_{\mathrm{NPs\ \&\ NFs}} + P^{hot}_{NPs\ only} \times P^{cool}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{hot}_{NPs\ only} \times P^{cool}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{hot}_{NPs\ \&\ \mathrm{SA-SNs}} \times P^{cool}_{\mathrm{NPs\ \&\ NFs}} + P^{hot}_{NPs\ \&\ SA-SNs} \times P^{cool}_{\mathrm{NPs\ only}} + P^{hot}_{NPs\ \&\ SA-SNs} \times P^{cool}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{hot}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cool}_{\mathrm{NPs\ \&\ NFs}} + P^{hot}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cool}_{\mathrm{NPs\ only}} + P^{hot}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cool}_{\mathrm{NPs\ \&\ SA-SNs}}$$
$$= 1 \times \frac{1}{4} + 1 \times \frac{1}{4} + 1 \times \frac{1}{2} + 0 \times 0 + 0 \times \frac{1}{4} + 0 \times \frac{1}{2} + 0 \times 0 + 0 \times \frac{1}{4} + 0 \times \frac{1}{2}$$
$$+ 0 \times 0 + 0 \times \frac{1}{4} + 0 \times \frac{1}{4} = 1$$

2.2.3. *hot* vs. *cold*

$$P_{color} = P^{hot}_{w} \times P^{cold}_{c} + P^{hot}_{c} \times P^{cold}_{w} = 1 \times 1 + 0 \times \frac{1}{2} = 1$$

$$P_{SPR} = P^{hot}_{i} \times P^{cold}_{d} + P^{hot}_{d} \times P^{cold}_{i} = 1 \times \frac{1}{2} + 0 \times 0 = \frac{1}{2}$$

$$P_{Time} = P^{hot}_{t<1\,h} \times P^{cold}_{1\,\mathrm{h} \le t<2\,h} + P^{hot}_{t<1\,h} \times P^{cold}_{t\ge 2\,h} + P^{hot}_{1\,\mathrm{h} \le t<2\,h} \times P^{cold}_{t<1\,h} + P^{hot}_{1\,\mathrm{h} \le t<2\,h} \times P^{cold}_{t\ge 2\,h} + P^{hot}_{t\ge 2\,h} \times P^{cold}_{t<1\,h} + P^{hot}_{t\ge 2\,h} \times P^{cold}_{1\,\mathrm{h} \le t<2\,h}$$
$$= 0 \times \frac{1}{4} + 0 \times 0 + \frac{1}{4} \times \frac{3}{4} + \frac{1}{4} \times 0 + \frac{3}{4} \times \frac{3}{4} + \frac{3}{4} \times \frac{1}{4} = \frac{15}{16}$$

$$P_{TEM} = P^{hot}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{NPs\ only}} + P^{hot}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{hot}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{hot}_{NPs\ only} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{hot}_{NPs\ only} \times P^{cold}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{hot}_{NPs\ only} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{hot}_{NPs\ \&\ SA-SNs} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{hot}_{NPs\ \&\ SA-SNs} \times P^{cold}_{\mathrm{NPs\ only}} + P^{hot}_{NPs\ \&\ SA-SNs} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{hot}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{hot}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ only}} + P^{hot}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ \&\ SA-SNs}}$$
$$= 1 \times 0 + 1 \times 0 + 1 \times 1 + 0 \times 0 + 0 \times 0 + 0 \times 1 + 0 \times 0 + 0 \times 0 + 0 \times 1$$
$$+ 0 \times 0 + 0 \times 0 + 0 \times 0 = 1$$

2.2.4. *warm* vs. *cool*

$$P_{color} = P^{warm}_{w} \times P^{cool}_{c} + P^{warm}_{c} \times P^{cool}_{w} = \frac{3}{4} \times \frac{3}{4} + \frac{1}{4} \times \frac{1}{4} = \frac{5}{8}$$

$$P_{SPR} = P^{warm}_{i} \times P^{cool}_{d} + P^{warm}_{d} \times P^{cool}_{i} = 1 \times \frac{1}{4} + 0 \times \frac{3}{4} = \frac{1}{4}$$

$$P_{Time} = P^{warm}_{t<1\,h} \times P^{cool}_{1\,\mathrm{h} \le t<2\,h} + P^{warm}_{t<1\,h} \times P^{cool}_{t\ge 2\,h} + P^{warm}_{1\,\mathrm{h} \le t<2\,h} \times P^{cool}_{t<1\,h} + P^{warm}_{1\,\mathrm{h} \le t<2\,h} \times P^{cool}_{t\ge 2\,h} + P^{warm}_{t\ge 2\,h} \times P^{cool}_{t<1\,h} + P^{warm}_{t\ge 2\,h} \times P^{cool}_{1\,\mathrm{h} \le t<2\,h}$$
$$= 1 \times \frac{1}{4} + 1 \times \frac{1}{4} + 0 \times \frac{1}{2} + 0 \times \frac{1}{4} + 0 \times \frac{3}{4} + 0 \times \frac{1}{4} = \frac{1}{2}$$

$$P_{TEM} = P^{warm}_{NPs\ \&\ \mathrm{NFs}} \times P^{cool}_{\mathrm{NPs\ only}} + P^{warm}_{NPs\ \&\ \mathrm{NFs}} \times P^{cool}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{warm}_{NPs\ \&\ \mathrm{NFs}} \times P^{cool}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{warm}_{NPs\ only} \times P^{cool}_{\mathrm{NPs\ \&\ NFs}} + P^{warm}_{NPs\ only} \times P^{cool}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{warm}_{NPs\ only} \times P^{cool}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{warm}_{NPs\ \&\ SA-SNs} \times P^{cool}_{\mathrm{NPs\ \&\ NFs}} + P^{warm}_{NPs\ \&\ SA-SNs} \times P^{cool}_{\mathrm{NPs\ only}} + P^{warm}_{NPs\ \&\ SA-SNs} \times P^{cool}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{warm}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cool}_{\mathrm{NPs\ \&\ NFs}} + P^{warm}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cool}_{\mathrm{NPs\ only}} + P^{warm}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cool}_{\mathrm{NPs\ \&\ SA-SNs}}$$
$$= \frac{1}{4} \times \frac{1}{4} + \frac{1}{4} \times \frac{1}{4} + \frac{1}{4} \times \frac{1}{2} + \frac{1}{2} \times 0 + \frac{1}{2} \times \frac{1}{4} + \frac{1}{2} \times \frac{1}{2} + 0 \times 0 + 0 \times \frac{1}{4} + 0 \times \frac{1}{2}$$
$$+ \frac{1}{4} \times 0 + \frac{1}{4} \times \frac{1}{4} + \frac{1}{4} \times \frac{1}{4} = \frac{3}{4}$$

2.2.5. *warm* vs. *cold*

$$P_{color} = P^{warm}_{w} \times P^{cold}_{c} + P^{warm}_{c} \times P^{cold}_{w} = \frac{3}{4} \times 1 + \frac{1}{4} \times 0 = \frac{3}{4}$$

$$P_{SPR} = P^{warm}_{i} \times P^{cold}_{d} + P^{warm}_{d} \times P^{cold}_{i} = 1 \times \frac{1}{2} + 0 \times \frac{1}{2} = \frac{1}{2}$$

$$P_{Time} = P^{warm}_{t<1\,h} \times P^{cold}_{1\,\mathrm{h} \le t<2\,h} + P^{warm}_{t<1\,h} \times P^{cold}_{t\ge 2\,h} + P^{warm}_{1\,\mathrm{h} \le t<2\,h} \times P^{cold}_{t<1\,h}$$
$$+ P^{warm}_{1\,\mathrm{h} \le t<2\,h} \times P^{cold}_{t\ge 2\,h} + P^{warm}_{t\ge 2\,h} \times P^{cold}_{t<1\,h} + P^{warm}_{t\ge 2\,h} \times P^{cold}_{1\,\mathrm{h} \le t<2\,h}$$
$$= 1 \times \frac{1}{4} + 1 \times 0 + 0 \times \frac{3}{4} + 0 \times 0 + 0 \times \frac{3}{4} + 0 \times \frac{1}{4} = \frac{1}{4}$$

$$P_{TEM} = P^{warm}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{NPs\ only}} + P^{warm}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{warm}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{warm}_{NPs\ only} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{warm}_{NPs\ only} \times P^{cold}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{warm}_{NPs\ only} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{warm}_{NPs\ \&\ \mathrm{SA-SNs}} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{warm}_{NPs\ \&\ SA-SNs} \times P^{cold}_{\mathrm{NPs\ only}} + P^{warm}_{NPs\ \&\ SA-SNs} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}}$$
$$+ P^{warm}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{warm}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ only}} + P^{warm}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ \&\ SA-SNs}}$$
$$= \frac{1}{4} \times 0 + \frac{1}{4} \times 0 + \frac{1}{4} \times 1 + \frac{1}{2} \times 0 + \frac{1}{2} \times 0 + \frac{1}{2} \times 1 + 0 \times 0 + 0 \times 0 + 0 \times 1$$
$$+ \frac{1}{4} \times 0 + \frac{1}{4} \times 0 + \frac{1}{4} \times 0 = \frac{3}{4}$$

2.2.6. *cool* vs. *cold*

$$P_{color} = P^{cool}_{w} \times P^{cold}_{c} + P^{cool}_{c} \times P^{cold}_{w} = \frac{1}{4} \times 1 + \frac{3}{4} \times 0 = \frac{1}{4}$$

$$P_{SPR} = P^{cool}_{i} \times P^{cold}_{d} + P^{cool}_{d} \times P^{cold}_{i} = \frac{3}{4} \times \frac{1}{2} + \frac{1}{4} \times \frac{1}{2} = \frac{1}{2}$$

$$P_{Time} = P^{cool}_{t<1\,h} \times P^{cold}_{1\,\mathrm{h} \le t<2\,h} + P^{cool}_{t<1\,h} \times P^{cold}_{t\ge 2\,h}$$
$$+ P^{cool}_{1\,\mathrm{h} \le t<2\,h} \times P^{cold}_{t<1\,h} + P^{cool}_{1\,\mathrm{h} \le t<2\,h} \times P^{cold}_{t\ge 2\,h} + P^{cool}_{t\ge 2\,h} \times P^{cold}_{t<1\,h}$$
$$+ P^{cool}_{t\ge 2\,h} \times P^{cold}_{1\ \mathrm{h} \le t<2\,h}$$
$$= \frac{1}{2} \times \frac{1}{4} + \frac{1}{2} \times 0 + \frac{1}{4} \times \frac{3}{4} + \frac{1}{4} \times 0 + \frac{1}{4} \times \frac{3}{4} + \frac{1}{4} \times \frac{1}{4} = \frac{9}{16}$$

$$
\begin{aligned}
P_{TEM} = {} & P^{cool}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{NPs\ only}} + P^{cool}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{cool}_{NPs\ \&\ \mathrm{NFs}} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}} \\
& + P^{cool}_{NPs\ only} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{cool}_{NPs\ only} \times P^{cold}_{\mathrm{NPs\ \&\ SA-NSs}} + P^{cool}_{NPs\ only} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}} \\
& + P^{cool}_{NPs\ \&\ \mathrm{SA-SNs}} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{cool}_{NPs\ \&\ SA-SNs} \times P^{cold}_{\mathrm{NPs\ only}} + P^{cool}_{NPs\ \&\ SA-SNs} \times P^{cold}_{\mathrm{SA\text{-}SNSs\ only}} \\
& + P^{cool}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ \&\ NFs}} + P^{cool}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ only}} + P^{cool}_{\mathrm{SA\text{-}SNSs\ only}} \times P^{cold}_{\mathrm{NPs\ \&\ SA-SNs}} \\
& = 0 \times 0 + 0 \times 0 + 0 \times 1 + \frac{1}{4} \times 0 + \frac{1}{4} \times 0 + \frac{1}{4} \times 1 + \frac{1}{4} \times 0 + \frac{1}{4} \times 0 + \frac{1}{4} \times 1 \\
& + \frac{1}{2} \times 0 + \frac{1}{2} \times 0 + \frac{1}{2} \times 0 = \frac{1}{2}
\end{aligned}
$$

3. Supporting Figures

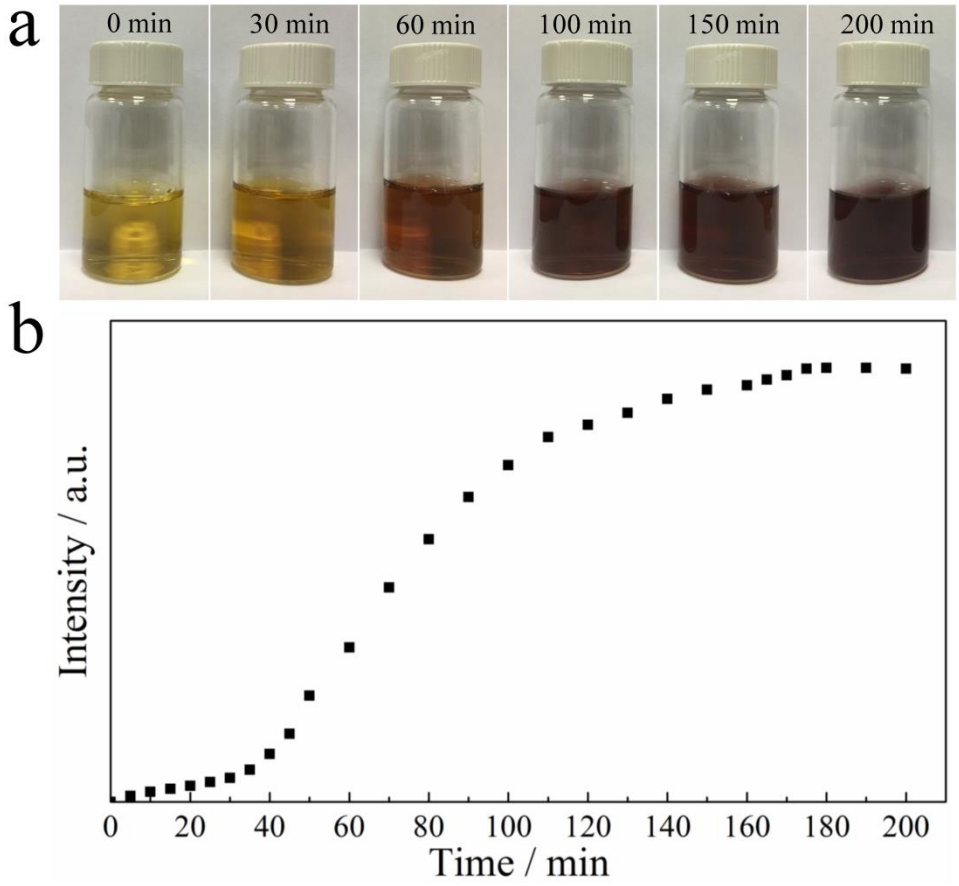

Figure S1. (a) The evolution of the color of the nano-Au solution in a *Bi Ba* extract (from the *hot* family), and (b) the intensity of Au SPR peak at 550 nm plotted against reaction time.

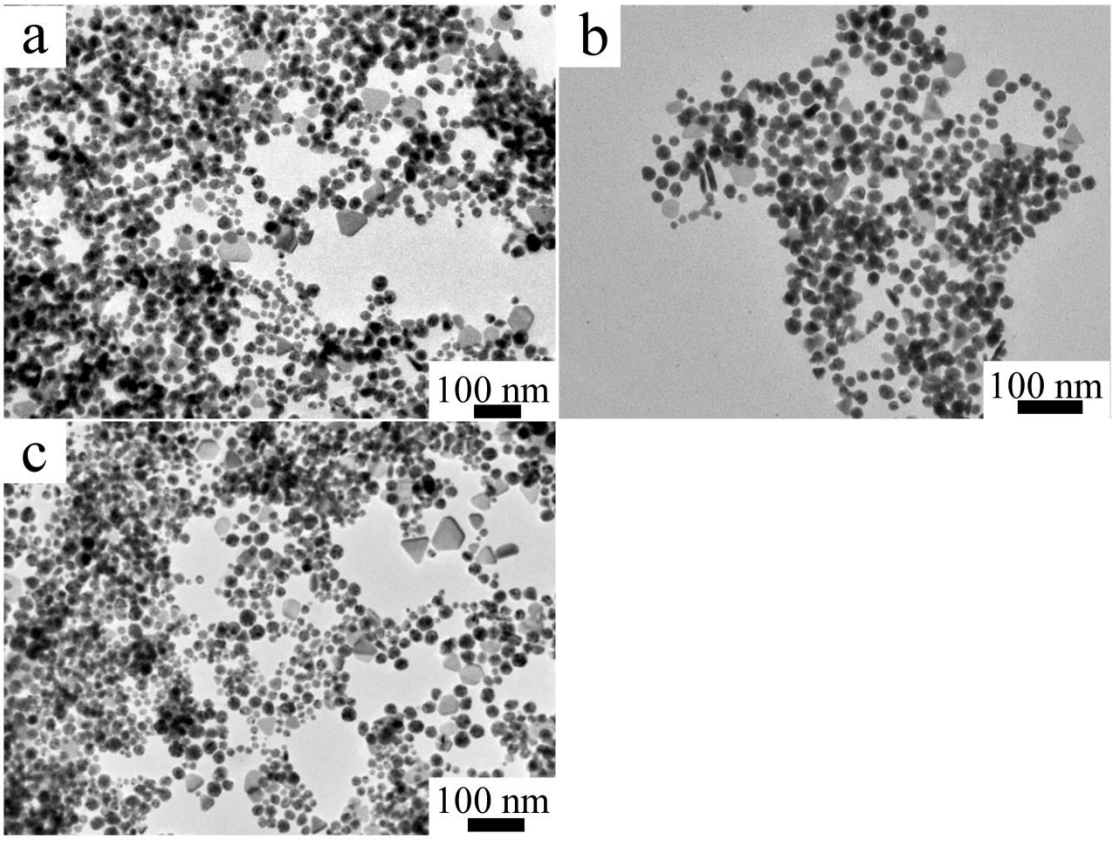

Figure S2. TEM images of the nano-Au products synthesized by *Bi Ba* with different extract concentrations. (a) a fresh stock solution, (b) a 5-fold diluted solution, and (c) a 10-fold diluted solution.

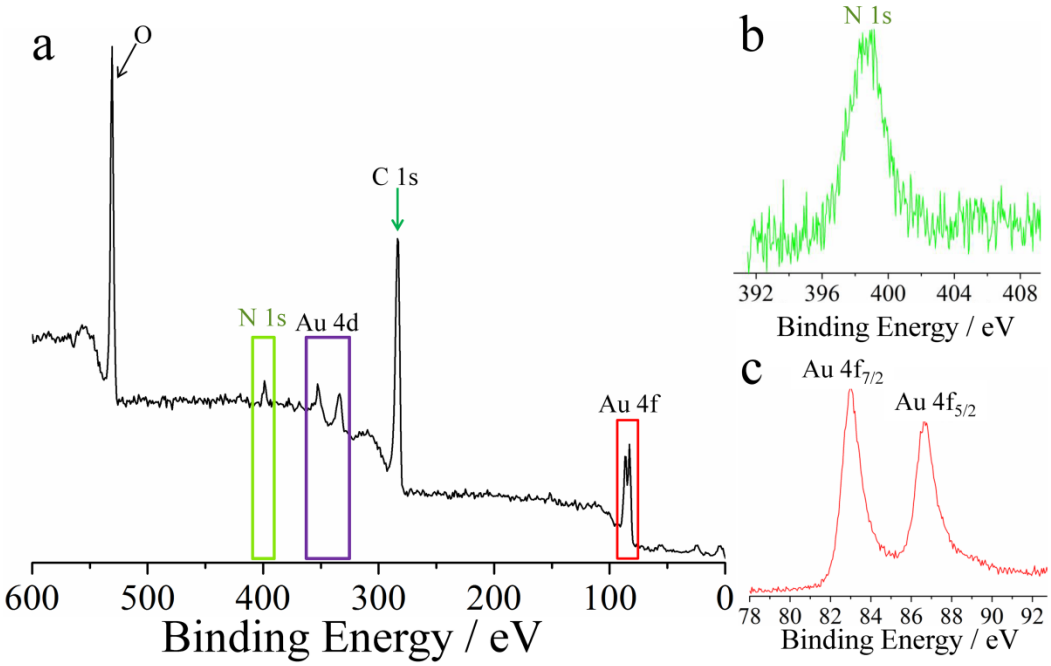

Figure S3. (a) XPS survey spectrum and (b, c) high-resolution N 1s and Au 4f spectra of the nano-Au product synthesized by the *Bi Ba* extract.

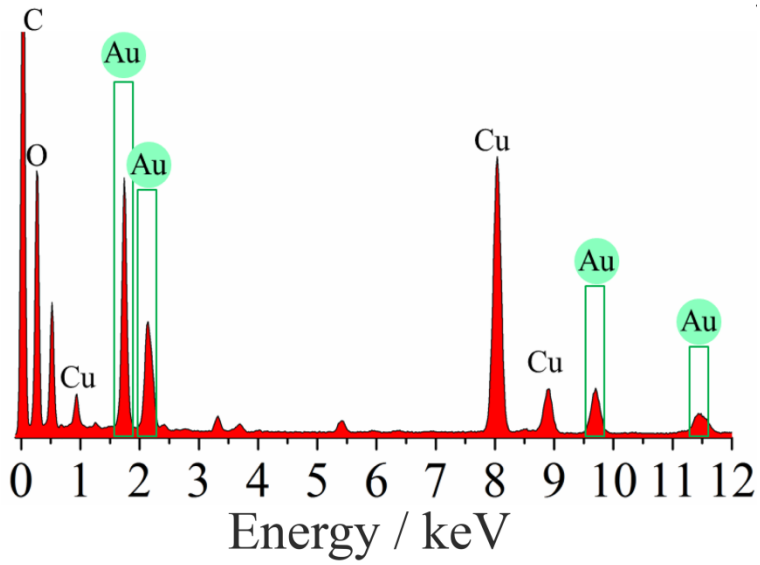

Figure S4. EDX spectrum of the nano-Au product synthesized by the *Bi Ba* extract.

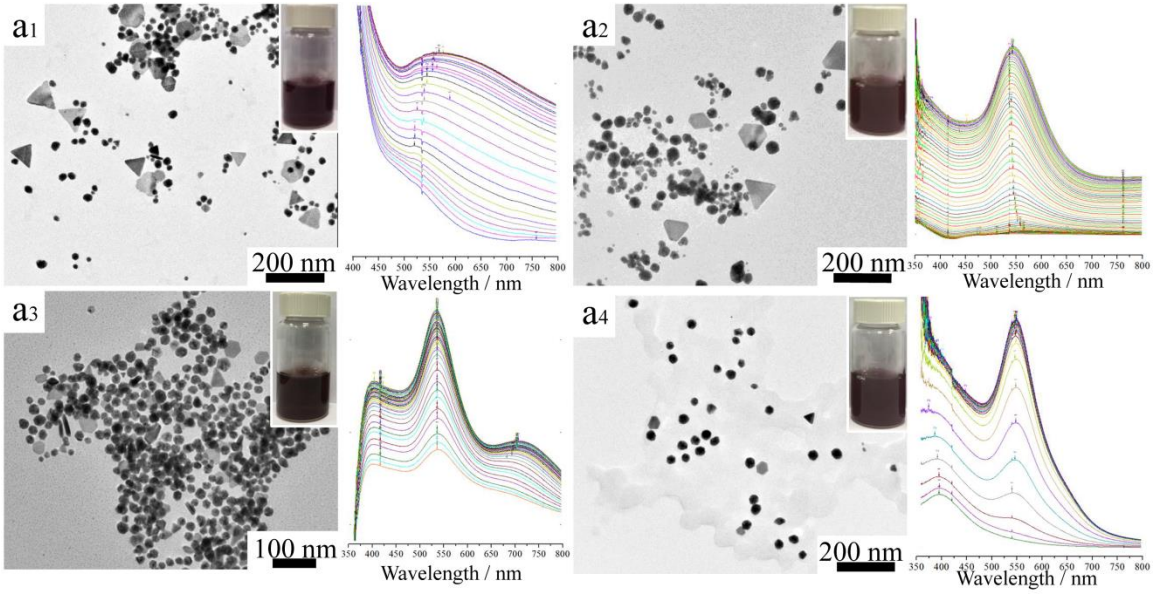

Figure S5. Characterization of the nano-Au products synthesized by the TCHMs from the *hot* family: (a1) *Gan Jiang*, (a2) *La Jiao*, (a3) *Bi Ba*, and (a4) *Rou Gui*.

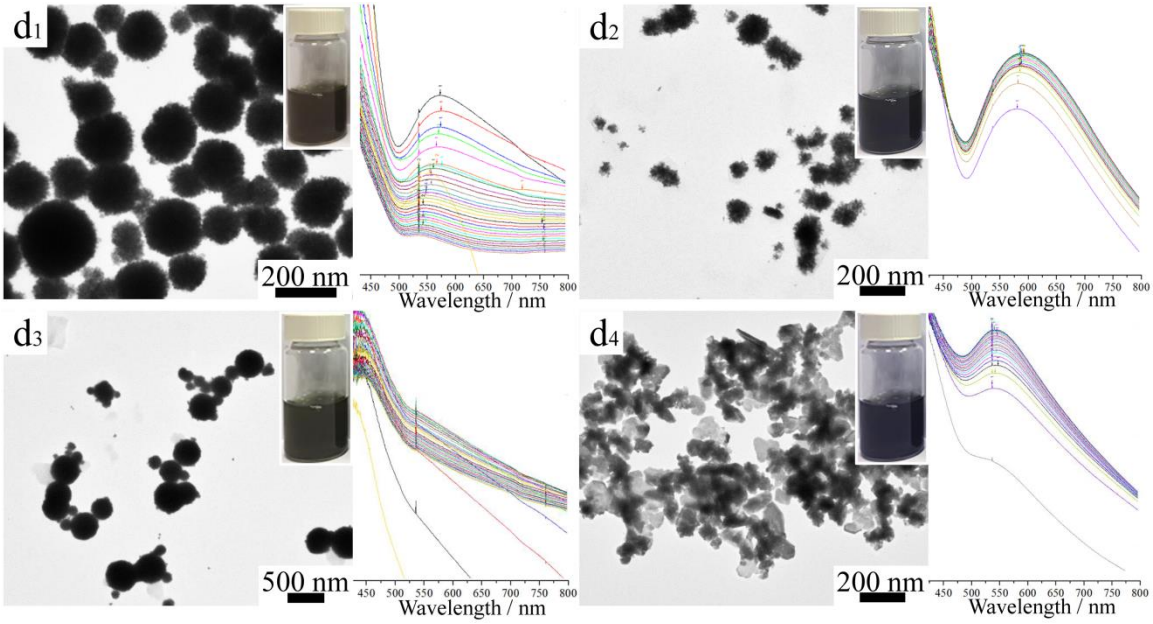

Figure S6. Characterization of the nano-Au products synthesized by the TCHMs from the *cold* family: (d1) *Jin Yin Hua*, (d2) *Pu Gong Ying*, (d3) *Ye Ju Hua*, and (d4) *Shi Hu*.

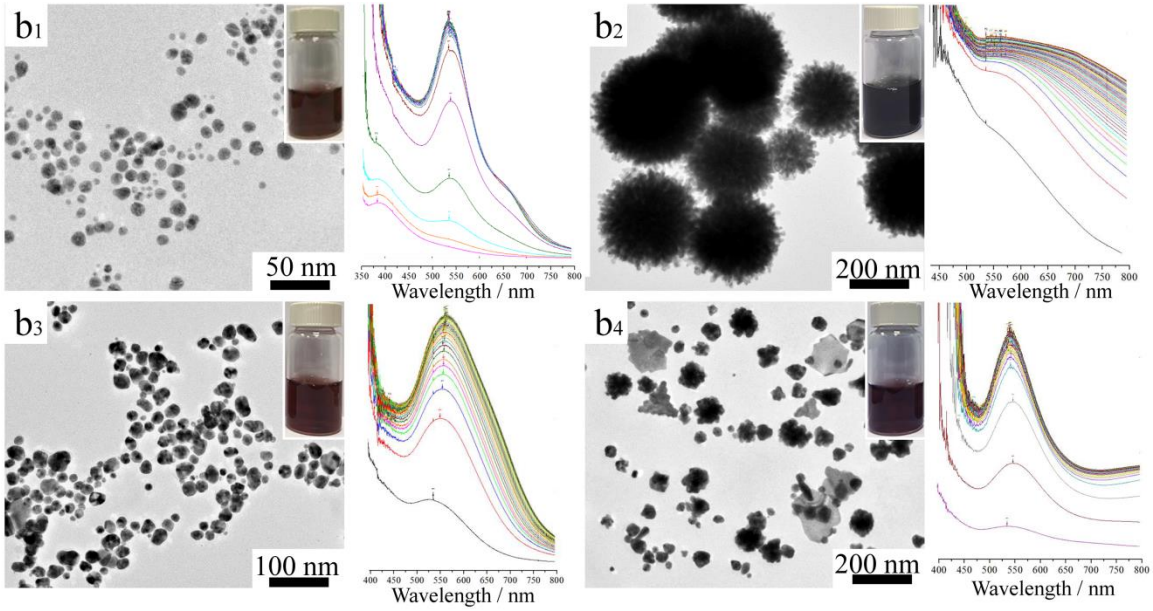

Figure S7. Characterization of nano-Au products synthesized by the TCHMs from the *warm* family: (b1) *Gui Zhi*, (b2) *Ai Ye*, (b3) *Cang Shu*, and (b4) *Rou Cong Rong*.

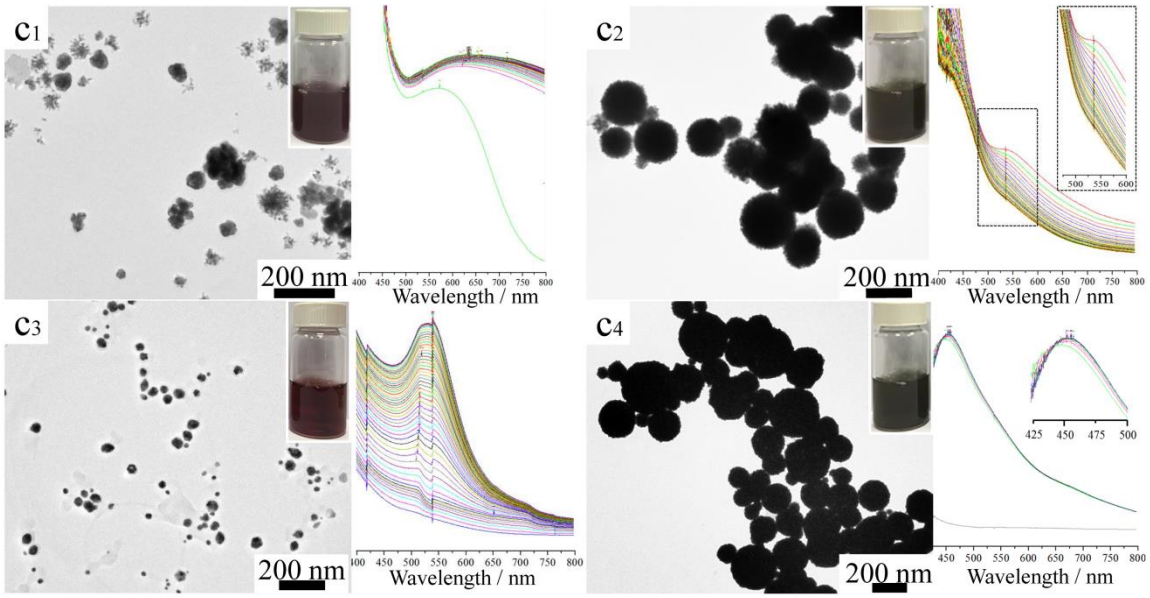

Figure S8. Characterization of nano-Au products synthesized by the TCHMs from the *cool* family: (c1) *Tu Da Huang*, (c2) *Bo He*, (c3) *Xi Yang Shen*, and (c4) *Lv Cha*.

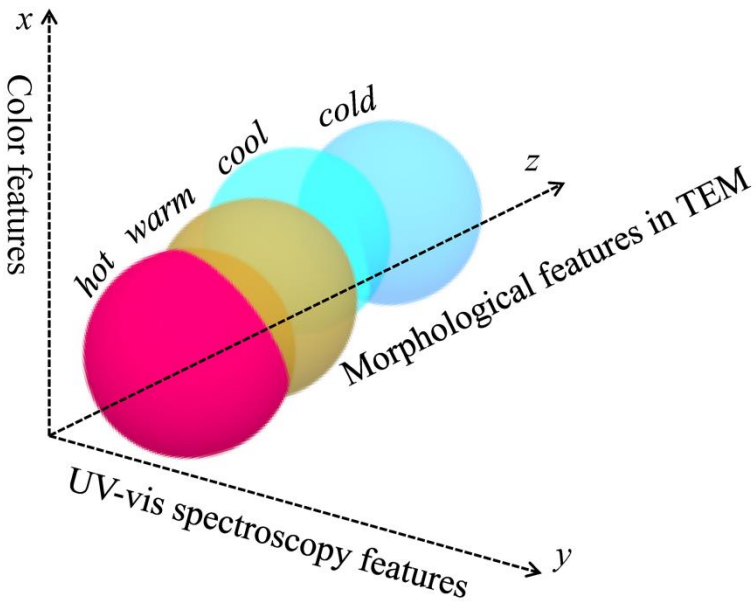

Figure S9. A schematic illustration of the overlaps in *Qi*-related features in the biosynthesis of nano-Au with TCHMs of different *Qi* properties. The three-dimensional spatial coordinates are used to represent the three measured *Qi*-related features: (*x*) solution color attribution as observed by the naked eyes, (*y*) solution SPR properties and reaction times as measured by UV-vis spectroscopy, and (*z*) the morphological features of nano-Au as observed by TEM.

4. Supporting Table

Table S1: Frequency distributions of various *Qi* classification attributes from the biosynthesis of nano-Au

Test	*Hot*	*Warm*	*Cool*	*Cold*
Solution color attribute	100%: Warm 0%: cool	75%: warm 25%: cool	25%: warm 75%: cool	0%: warm 100%: cool
Time for complete reaction	75%: $t \geqslant 2$ h 25%: 1 h $\leqslant t < 2$ h	100% : $t < 1$ h	50%: $t < 1$ h 25%: 1 h $\leqslant t < 2$ h 25%: $t \geqslant 2$ h	75%: $t < 1$ h 25%: 1 h $\leqslant t < 2$ h
SPR peak intensity	100%: Increasing	100%: Increasing	75%: Increasing 25%: Decreasing	50%: Increasing 50%: Decreasing
Morphological forms of nano-Au	100%: NPs & NFs	25%: NPs & NFs 50%: NPs only 25%: SA-NSs only	25%: NPs only 50%: SA-NSs only 25%: NPs & SA-NSs	100%: SA-SNSs (75%: SA-NSs & 25%: SA-NFs)