

Supplement 2. Chemical composition of the Hanzhong bronzes

Analytical method: Compositional analyses were carried out by Electron Probe Microanalysis (EPMA) with Wavelength Dispersive Spectrometer (EPMA-WDS), using a JEOL 8100 Superprobe in the Wolfson Archaeological Science Laboratory at the UCL Institute of Archaeology. Operating conditions were an accelerating voltage of 20 kV and an absorbed electron current of approximately 5×10^{-8} A. Detection limits for most elements were around 100 to 200 ppm but could be as high as 400 ppm for arsenic. The measured intensities were quantified against pure or binary compounds using JEOL's ZAF correction procedure. Seven to nine micro-areas, each about 0.015 square millimetres, were analyzed in each sample and the mean value of these micro-areas was calculated and used as quantitative result for that sample, in order to reduce the error caused by potential heterogeneity of samples.

Note for the table: “—” means below detection limit; “tr.” means trace, i.e. visible peak but below confidence level.

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Ding	HZ402	36.40	—	7.71	—	tr.	0.06	—	0.74	—	—	—	39.08	83.99	1957YZHBT:1
Ding	HZ028	83.99	1.41	13.82	—	—	0.07	—	—	—	tr.	0.07	0.31	99.76	1964CHWbT:11
Ding	HZ025	67.95	7.52	22.56	—	—	0.07	—	tr.	—	—	0.37	0.60	99.14	1964CHWbT:8
Ding	HZ120	63.04	6.28	28.28	—	—	0.13	—	tr.	—	—	0.52	1.60	99.90	1964CHWbT:9
Ding	HZ111	75.99	15.53	2.79	—	—	0.12	—	—	0.07	—	0.22	3.99	98.73	1970CHWXT:1
Ding	HZ108	96.35	—	—	—	—	—	—	—	0.10	—	—	1.63	98.17	1975CHWXbT:5
Ding	HZ112	96.82	0.36	—	—	—	—	—	—	0.07	—	—	0.20	97.47	2004CHBLT:1
Ding	HZ105	84.20	13.30	0.78	—	—	0.06	—	—	0.09	—	—	0.34	98.80	2004CHLTT:2
Ding	HZ115	78.57	7.75	12.00	—	—	0.05	—	—	—	—	0.11	0.54	99.06	CHLZT:1
Zun	HZ125	83.19	4.43	3.37	—	—	—	—	—	0.06	—	0.51	5.86	97.45	1964CHWbT:4
Zun	HZ127	75.83	7.89	15.10	—	—	0.06	—	—	—	—	0.10	0.63	99.66	1964CHWbT:5
Zun	HZ027	78.18	8.57	4.47	—	—	—	—	tr.	tr.	—	0.82	8.09	100.27	1964CHWbT:7

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Zun	HZ128	63.33	7.85	26.06	0.10	0.06	0.17	—	1.01	—	0.32	0.41	0.76	100.09	1964YZHCT:1
Zun	HZ124	74.72	10.53	5.78	—	—	0.05	—	0.07	0.06	—	0.31	8.39	99.91	1974CHBSTT:1
Zun	HZ122	77.59	3.76	16.84	—	—	0.11	—	—	—	—	0.31	1.12	99.78	1974CHWT:1
Zun	HZ129	87.60	—	2.39	1.31	—	0.07	—	0.88	0.23	0.08	1.19	3.68	97.45	YLZT:7
Bu	HZ134	72.34	9.15	15.52	0.16	tr.	0.12	—	0.48	0.07	0.11	0.35	0.80	99.14	1973CHLHT:1
Bu	HZ401	78.76	16.26	2.37	—	—	0.05	—	—	0.08	—	—	0.34	97.92	1990YMAT:1
Bu	HZ135	71.68	18.50	2.55	—	—	0.07	tr.	0.07	0.07	—	0.35	5.05	98.44	1990YMAT:3
Bu	HZ021	75.28	17.88	1.73	—	—	0.09	—	0.16	0.07	0.07	0.29	1.31	96.89	1990YMAT:4
Bu	HZ137	74.33	13.70	6.14	—	—	0.08	—	—	0.06	—	0.33	2.24	96.91	1990YMAT:5
Bu	HZ138	77.43	14.23	6.88	—	—	tr.	—	—	0.05	—	—	0.42	99.06	2004CHLTT:4
Li	HZ113	99.07	0.18	—	—	—	0.05	—	—	0.11	—	—	0.26	99.72	1975CHWXaT:1
Li	HZ106	97.95	0.14	—	—	—	tr.	—	—	0.10	—	—	0.44	98.73	1975CHWXbT:3
Li	HZ109	97.25	tr.	—	—	—	—	—	—	0.08	—	—	0.19	97.60	1975CHWXbT:4
Li	HZ101	64.63	6.68	26.41	tr.	—	0.48	0.07	—	—	tr.	0.22	0.71	99.30	2004CHLTT:1
Gu	HZ132	83.99	9.92	4.70	0.09	—	—	0.06	tr.	tr.	—	0.12	0.40	99.40	1980CHLTT:10
Gu	HZ133	71.76	9.54	16.96	—	—	0.16	tr.	—	—	0.23	tr.	1.06	99.82	1980CHLTT:8
Gu	HZ131	81.78	4.99	11.60	—	—	0.14	0.06	—	tr.	0.43	—	0.38	99.44	1980CHLTT:9
Gu	HZ130	66.89	19.37	4.07	—	—	0.09	tr.	tr.	0.05	0.15	0.07	6.71	97.48	1981CHLTT:7
Lei	HZ030	87.62	4.16	2.57	—	—	—	—	—	0.05	tr.	0.35	3.47	98.30	1964CHWbT:14
Lei	HZ139	84.50	6.06	3.57	—	—	tr.	—	—	0.08	tr.	0.45	3.27	98.03	1964CHWbT:2
Lei	HZ023	79.95	5.87	3.02	—	—	—	—	—	tr.	tr.	0.72	8.49	98.17	1964CHWbT:3
You	HZ142	75.01	10.10	13.46	—	—	0.19	tr.	—	—	0.14	—	0.54	99.53	1980CHLTT:4
Gong	HZ140	68.67	5.84	15.09	1.88	0.08	0.08	—	tr.	tr.	0.21	0.37	4.66	96.97	1981YZHCT:2

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Jia	HZ322	84.68	—	7.81	0.77	—	0.16	—	3.03	0.17	0.11	0.30	1.65	98.72	1981YZHCT:4
Yan	HZ323	78.84	8.37	11.02	0.13	—	0.52	—	—	—	0.23	0.18	0.50	99.86	2004CHLTT:3
Gui	HZ141	66.14	4.06	23.42	1.21	—	0.18	—	0.33	—	0.12	0.36	1.82	97.68	YLZT:8
Foot ring	HZ145	80.82	5.51	3.19	—	—	tr.	—	—	0.07	tr.	0.61	9.32	99.65	1964CHWbT:19
Ge blade	HZ160	81.59	12.93	2.91	—	—	—	—	—	0.06	—	—	1.36	98.94	1964CHWaT:2
Ge blade	HZ161	86.36	3.46	8.88	—	—	tr.	—	0.12	tr.	tr.	—	0.28	99.26	1964CHWbT:18
Ge blade	HZ159	82.25	—	15.81	—	—	0.07	—	—	—	0.10	—	0.51	98.74	1975CHWT:2
Ge blade	HZ170	82.44	7.44	6.91	—	—	tr.	—	—	tr.	tr.	0.08	0.30	97.30	1976CHBSXT:101
Ge blade	HZ172	77.99	9.50	9.03	—	—	tr.	—	—	tr.	tr.	0.06	0.87	97.56	1976CHBSXT:103
Ge blade	HZ163	84.83	12.65	0.29	—	—	—	—	—	0.07	—	—	2.01	99.94	1976CHBSXT:106
Ge blade	HZ168	85.67	12.90	1.03	—	—	—	—	—	0.07	—	0.07	0.24	99.98	1976CHBSXT:107
Ge blade	HZ169	84.09	5.57	10.07	—	—	tr.	—	—	—	—	0.05	0.38	100.16	1976CHBSXT:116
Ge blade	HZ165	82.96	9.12	7.66	—	—	tr.	—	—	tr.	tr.	0.11	0.47	100.32	1976CHBSXT:129
Ge blade	HZ158	81.68	5.64	11.51	—	—	tr.	—	0.05	—	—	0.09	0.37	99.34	1976CHBSXT:38
Ge blade	HZ157	83.71	3.70	11.50	—	—	0.06	—	0.06	tr.	—	tr.	0.30	99.33	1976CHBSXT:39
Ge blade	HZ155	78.76	6.15	12.91	—	—	0.06	—	—	—	—	0.06	0.36	98.35	1976CHBSXT:40
Ge blade	HZ156	83.23	3.94	10.58	—	—	0.06	—	0.06	tr.	—	tr.	0.62	98.63	1976CHBSXT:41
Ge blade	HZ153	82.57	14.44	1.17	—	—	—	—	—	0.07	—	0.10	0.44	98.87	1976CHBSXT:50
Ge blade	HZ152	71.98	4.47	13.59	—	—	0.05	—	—	—	—	0.06	3.99	94.20	1976CHBSXT:51
Ge blade	HZ150	75.82	4.80	16.99	—	—	0.07	—	—	—	—	—	0.77	98.50	1976CHBSXT:52
Ge blade	HZ151	81.09	6.05	10.39	—	—	tr.	—	—	—	tr.	—	0.44	98.11	1976CHBSXT:56
Ge blade	HZ154	77.83	8.08	12.50	—	—	0.07	—	—	—	tr.	tr.	0.45	99.02	1976CHBSXT:58
Ge blade	HZ149	77.55	7.97	11.92	—	—	0.05	—	—	—	tr.	tr.	0.46	98.08	1976CHBSXT:61

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Ge blade	HZ177	76.55	11.87	4.75	0.98	—	0.12	—	—	tr.	0.11	0.19	2.39	96.96	1976CHBSXT:86
Ge blade	HZ167	84.69	6.44	5.65	—	—	tr.	—	—	tr.	—	0.05	0.41	97.35	1976CHBSXT:91
Ge blade	HZ171	76.36	5.84	15.90	—	—	0.09	—	—	—	tr.	—	0.92	99.18	1976CHBSXT:93
Ge blade	HZ164	84.82	11.67	1.40	—	—	—	—	—	0.07	—	tr.	0.34	98.42	1976CHBSXT:96
Ge blade	HZ162	82.00	13.50	1.08	—	—	—	—	—	0.06	—	0.07	0.30	97.07	1976CHBSXT:98
Ge blade	HZ166	83.35	6.85	6.99	—	—	tr.	—	—	0.05	tr.	0.07	0.32	97.71	1976CHBSXT:99
Ge blade	HZ176	94.69	4.08	0.12	0.18	—	—	tr.	—	0.07	0.05	tr.	0.24	99.43	1981YLTT:1
Ge blade	HZ326	97.22	0.23	—	—	—	—	tr.	0.20	0.08	—	0.19	0.20	98.26	YLZT:1
Spear head	HZ188	78.70	10.91	9.51	—	—	0.37	—	—	—	—	0.15	0.40	100.10	1955CHBSXT:11
Spear head	HZ179	77.48	13.35	8.48	—	—	tr.	—	—	—	—	0.20	0.40	99.91	1955CHBSXT:16
Spear head	HZ180	75.83	11.48	10.90	—	—	0.36	—	—	—	—	0.15	0.79	99.51	1955CHBSXT:18
Spear head	HZ181	76.86	12.87	9.63	—	—	0.20	—	—	—	—	0.05	0.44	100.06	1955CHBSXT:19
Spear head	HZ189	81.00	9.51	3.86	—	—	tr.	—	—	0.05	—	0.43	3.71	98.66	1955CHBSXT:6
Spear head	HZ190	83.31	4.62	8.43	0.35	0.35	tr.	—	—	—	tr.	0.31	0.62	98.12	1955CHBSXT:7
Spear head	HZ182	82.25	9.50	6.21	—	—	0.24	—	—	tr.	—	0.07	0.27	98.53	1955CHBSXT:8
Spear head	HZ183	87.79	0.46	8.26	0.07	tr.	0.17	tr.	—	tr.	0.88	0.07	0.38	98.07	1980CHLTT:15
Spear head	HZ184	82.52	0.67	13.20	0.06	tr.	0.30	—	—	—	0.90	0.08	0.34	98.06	1980CHLTT:16
Spear head	HZ185	91.40	6.12	0.80	0.18	—	0.06	0.08	—	0.08	0.21	—	0.93	99.87	1980CHLTT:17
Spear head	HZ187	89.84	7.96	0.87	0.19	—	tr.	0.05	—	0.07	0.14	0.06	0.44	99.63	1980CHLTT:20
Spear head	HZ186	95.60	1.69	0.57	0.91	0.11	tr.	0.11	—	0.07	0.18	—	0.27	99.49	1980CHLTT:21
Yue Axe	HZ193	96.00	—	—	0.51	—	—	—	—	0.08	tr.	—	0.35	97.00	1980CHLTT:11
Yue Axe	HZ191	97.55	—	—	0.87	—	—	—	—	0.08	tr.	0.13	0.17	98.86	1980CHLTT:13
Yue Axe	HZ192	97.37	—	—	0.91	—	—	—	—	0.08	tr.	0.20	0.20	98.82	1980CHLTT:14

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Yue Axe	HZ196	94.46	0.47	0.16	1.47	0.12	—	0.37	—	0.07	tr.	0.14	0.21	97.51	1988CHWT:1
Yue Axe	HZ194	90.57	7.09	1.22	tr.	—	tr.	tr.	—	0.07	tr.	0.10	0.55	99.78	1988CHWT:2
Yue Axe	HZ195	83.98	11.20	2.10	0.22	—	—	—	—	0.06	tr.	tr.	0.37	98.07	1999CHLXWT:1
Yue Axe	HZ197	83.03	9.67	2.66	0.06	—	0.06	—	—	0.06	0.06	0.40	2.93	98.98	YLZT:4
Arrow head	HZ201	72.00	18.09	0.13	—	—	—	0.07	—	0.05	—	tr.	6.39	96.73	1979YXFT:28
Arrow head	HZ199	57.98	10.39	9.10	—	—	tr.	—	—	—	tr.	tr.	18.68	96.15	1979YXFT:32
Arrow head	HZ198	77.40	7.45	14.61	—	—	0.07	—	—	—	tr.	—	0.37	99.90	1979YXFT:34
Arrow head	HZ200	82.80	14.83	—	—	—	—	—	—	0.07	—	—	0.32	98.02	1979YXFT:36
Arrow head	HZ202	90.26	5.98	0.48	—	—	—	—	—	0.06	0.08	—	0.27	97.13	1979YXFT:38
Arrow head	HZ203	93.03	3.87	0.40	—	—	—	—	—	0.06	0.06	—	0.20	97.63	1979YXFT:39
Knife	HZ173	77.98	16.86	0.50	tr.	—	—	0.05	—	0.06	0.07	tr.	2.97	98.60	1979YXFT:27
Yang disc with projection	HZ216	88.14	7.23	2.82	—	—	—	—	tr.	0.07	—	0.05	0.36	98.79	1976CHBSXT:146
Yang disc with projection	HZ206	89.16	9.30	—	—	—	—	—	—	0.08	—	—	0.26	98.86	1976CHBSXT:155
Yang disc with projection	HZ219	84.68	10.63	3.02	—	—	—	—	—	0.06	—	0.06	0.32	98.86	1976CHBSXT:156
Yang disc with projection	HZ215	88.20	6.56	4.11	—	—	tr.	—	—	0.05	—	0.10	0.33	99.44	1976CHBSXT:159
Yang disc with projection	HZ204	79.66	8.39	11.22	—	—	0.05	—	—	—	tr.	0.13	0.45	99.95	1976CHBSXT:160
Yang disc with projection	HZ208	83.28	9.96	4.23	—	—	tr.	tr.	—	0.05	—	0.05	0.42	98.10	1976CHBSXT:181
Yang disc with projection	HZ209	87.29	10.94	—	—	—	—	—	—	0.07	—	—	0.44	98.83	1976CHBSXT:183
Yang disc with projection	HZ217	86.89	10.35	1.01	—	—	tr.	—	—	0.07	—	tr.	0.31	98.74	1976CHBSXT:197
Yang disc with projection	HZ214	81.70	9.99	8.15	—	—	0.05	—	—	tr.	0.06	0.05	0.40	100.50	1976CHBSXT:206
Yang disc with projection	HZ207	85.60	9.48	2.10	—	—	—	—	—	0.06	—	tr.	0.34	97.67	1976CHBSXT:207
Yang disc with projection	HZ218	82.73	9.37	6.49	—	—	tr.	—	—	tr.	0.07	0.08	0.45	99.32	1976CHBSXT:250
Yang disc with projection	HZ211	85.93	9.35	3.91	—	—	—	—	—	0.06	—	tr.	0.32	99.70	1976CHBSXT:265

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Yang disc with projection	HZ212	86.75	5.31	7.30	—	—	tr.	—	—	tr.	0.07	0.06	0.36	99.95	1976CHBSXT:266
Yang disc with projection	HZ213	89.67	8.66	0.87	—	—	—	0.05	—	0.07	—	0.11	0.28	99.77	1976CHBSXT:284
Yang disc with projection	HZ210	86.46	6.42	6.65	—	—	tr.	—	—	tr.	—	0.15	0.37	100.17	1976CHBSXT:285
Yang disc with projection	HZ221	87.40	7.52	3.34	—	—	tr.	—	0.06	0.06	—	0.05	0.37	98.90	1976CHBSXT:294
Yang disc with projection	HZ220	86.74	11.29	—	—	—	—	—	—	0.07	—	—	0.28	98.46	1976CHBSXT:298
Yang disc with projection	HZ222	88.19	10.68	0.37	—	—	—	—	—	0.08	—	tr.	0.30	99.71	1976CHBSXT:299
Yang disc with projection	HZ205	81.61	9.32	8.31	—	—	tr.	—	—	tr.	—	—	0.37	99.71	1976CHBSXT:300
Yang disc with projection	HZ223	87.59	5.59	6.06	—	—	0.05	0.05	—	0.05	—	0.08	0.46	99.96	1976CHBSXT:302
Yang disc with projection	HZ226	84.89	12.56	1.59	—	—	—	tr.	—	0.07	—	0.09	0.26	99.53	1976CHBSXT:311
Yang disc with projection	HZ227	80.76	12.00	6.91	—	—	0.05	—	—	tr.	—	0.06	0.39	100.24	1976CHBSXT:312
Yang disc with projection	HZ225	88.46	9.61	1.23	—	—	—	—	—	0.08	—	tr.	0.25	99.73	1976CHBSXT:319
Yang disc with projection	HZ224	87.49	10.26	1.76	—	—	—	—	—	0.07	—	tr.	0.22	99.90	1976CHBSXT:321
Yang disc with central hole	HZ228	81.22	15.96	tr.	—	—	—	—	tr.	0.07	—	—	0.52	97.89	1976CHBSXT:325
Yang disc with central hole	HZ238	79.36	17.88	0.11	—	—	—	—	—	0.07	—	—	0.29	97.77	1976CHBSXT:327
Yang disc with central hole	HZ237	81.60	13.68	2.26	—	—	—	—	tr.	0.05	—	—	0.46	98.17	1976CHBSXT:330
Yang disc with central hole	HZ236	84.74	9.22	3.61	—	—	0.05	—	—	tr.	tr.	0.06	0.31	98.12	1976CHBSXT:332
Yang disc with central hole	HZ235	80.86	16.87	0.05	—	—	—	—	0.06	0.07	—	—	0.47	98.42	1976CHBSXT:333
Yang disc with central hole	HZ234	81.49	16.53	—	—	—	—	—	0.08	0.08	—	—	0.35	98.60	1976CHBSXT:342
Yang disc with central hole	HZ231	79.77	17.85	0.07	—	—	—	—	—	0.07	—	—	0.34	98.19	1976CHBSXT:343
Yang disc with central hole	HZ232	83.73	13.48	0.15	—	—	—	—	tr.	0.08	—	—	0.30	97.83	1976CHBSXT:345
Yang disc with central hole	HZ233	83.13	14.49	0.09	—	—	—	—	—	0.08	—	—	0.34	98.17	1976CHBSXT:346
Yang disc with central hole	HZ229	80.62	16.97	0.16	—	—	—	—	tr.	0.07	—	—	0.28	98.18	1976CHBSXT:348
Yang disc with central hole	HZ230	84.07	11.98	1.61	—	—	tr.	—	—	0.07	—	—	0.33	98.14	1976CHBSXT:349

Objects	Lab No.	Composition (% wt)													Archaeological No.
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O	Total	
Yang disc with central hole	HZ249	82.43	17.19	tr.	—	—	—	—	0.08	0.07	—	—	0.28	100.10	1976CHBSXT:360
Yang disc with central hole	HZ248	84.52	15.03	tr.	—	—	—	—	—	0.07	—	—	0.26	99.98	1976CHBSXT:362
Yang disc with central hole	HZ243	81.41	15.31	0.21	—	—	—	—	—	0.06	—	—	0.43	97.47	1976CHBSXT:368
Yang disc with central hole	HZ247	80.16	18.06	0.08	—	—	—	—	—	0.07	—	—	0.27	98.69	1976CHBSXT:373
Yang disc with central hole	HZ244	80.68	16.08	0.09	—	—	—	—	0.06	0.07	—	—	0.32	97.34	1976CHBSXT:374
Yang disc with central hole	HZ239	82.15	15.48	0.07	—	—	—	—	tr.	0.07	—	—	0.41	98.24	1976CHBSXT:375
Yang disc with central hole	HZ252	84.67	13.76	0.06	—	—	—	—	—	0.08	—	—	0.27	98.89	1976CHBSXT:384
Yang disc with central hole	HZ240	82.19	17.21	tr.	—	—	—	—	—	0.08	—	—	0.24	99.84	1976CHBSXT:387
Yang disc with central hole	HZ242	83.55	15.47	0.06	—	—	—	—	—	0.07	—	—	0.24	99.44	1976CHBSXT:397
Yang disc with central hole	HZ253	82.63	15.06	0.06	—	—	—	—	—	0.06	—	—	0.20	98.07	1976CHBSXT:399
Yang disc with central hole	HZ246	83.02	15.24	0.07	—	—	—	—	—	0.07	—	—	0.23	98.67	1976CHBSXT:401
Yang disc with central hole	HZ254	81.14	16.53	0.21	—	—	—	—	—	0.07	—	—	0.20	98.21	1976CHBSXT:406
Yang disc with central hole	HZ251	83.56	14.85	tr.	—	—	—	—	—	0.08	—	—	0.50	99.08	1976CHBSXT:409
Yang disc with central hole	HZ250	85.93	11.39	0.40	—	—	—	—	—	0.08	—	—	0.36	98.23	1976CHBSXT:411
Yang disc with central hole	HZ245	86.12	11.77	0.09	—	—	—	—	tr.	0.08	—	—	0.21	98.34	1976CHBSXT:412
Yang disc with central hole	HZ241	82.15	17.31	0.07	—	—	—	—	—	0.07	—	—	0.22	99.90	1976CHBSXT:413
Human-faced mask	HZ299	83.52	13.52	1.26	—	—	—	—	—	0.07	—	tr.	0.32	98.78	1976CHBSXT:10
Human-faced mask	HZ302	85.49	11.35	1.74	—	—	—	tr.	—	0.07	—	tr.	0.37	99.14	1976CHBSXT:12
Human-faced mask	HZ304	82.53	15.88	0.43	—	—	—	—	0.10	0.07	—	—	0.32	99.38	1976CHBSXT:13
Human-faced mask	HZ303	85.14	13.06	0.26	—	—	—	0.07	—	0.06	—	0.08	0.30	99.01	1976CHBSXT:14
Human-faced mask	HZ300	82.89	14.02	1.23	—	—	—	—	—	0.07	—	0.05	0.43	98.73	1976CHBSXT:16
Human-faced mask	HZ298	85.35	11.22	1.16	—	—	—	tr.	—	0.07	—	0.06	0.33	98.26	1976CHBSXT:17
Human-faced mask	HZ301	84.10	14.04	0.22	—	—	—	0.06	—	0.07	—	0.08	0.40	99.01	1976CHBSXT:18

Objects	Lab No.	Composition (% wt)													Archaeological No.
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O	Total	
Human-faced mask	HZ306	86.48	11.99	0.39	—	—	—	0.06	—	0.07	—	0.06	0.30	99.37	1976CHBSXT:19
Human-faced mask	HZ297	78.09	18.85	0.59	—	—	—	—	—	0.06	—	—	0.45	98.13	1976CHBSXT:3
Human-faced mask	HZ296	78.85	16.72	1.10	—	—	—	—	—	0.05	—	tr.	0.46	97.28	1976CHBSXT:4
Animal-faced mask	HZ311	81.09	14.42	0.28	—	—	0.09	0.06	—	0.09	—	0.15	1.11	97.30	1963CHBSTT:10
Animal-faced mask	HZ312	84.62	11.69	0.26	—	—	0.08	—	—	0.10	—	tr.	0.46	97.29	1963CHBSTT:12
Animal-faced mask	HZ313	85.50	9.44	1.72	0.83	—	0.10	0.43	—	0.07	—	0.11	0.33	98.54	1963CHBSTT:16
Animal-faced mask	HZ310	81.87	10.82	4.21	—	—	0.06	—	—	0.07	—	—	0.34	97.41	1963CHBSTT:2
Animal-faced mask	HZ308	78.48	11.73	9.09	—	—	0.07	—	—	tr.	—	—	0.35	99.79	1963CHBSTT:3
Animal-faced mask	HZ307	83.36	8.91	6.83	—	—	0.12	0.09	—	0.05	0.17	—	0.35	99.95	1963CHBSTT:7
Animal-faced mask	HZ309	80.43	15.30	0.15	—	—	0.07	0.06	—	0.09	—	0.18	1.55	97.83	1963CHBSTT:8
Animal-faced mask	HZ316	81.71	8.81	8.69	—	—	tr.	—	—	tr.	—	0.09	0.64	100.05	1976CHBSXT:29
Animal-faced mask	HZ314	85.62	5.70	7.30	0.11	0.21	tr.	0.14	—	tr.	—	0.07	0.52	99.76	1976CHBSXT:33
Sickle-Shaped objects	HZ272	91.53	tr.	tr.	0.30	5.82	0.10	—	—	0.10	tr.	0.10	0.33	98.42	1975CHWXbT:10
Sickle-Shaped objects	HZ271	97.07	—	—	—	—	tr.	tr.	—	0.11	tr.	—	0.62	97.92	1975CHWXbT:11
Sickle-Shaped objects	HZ273	97.82	0.09	—	—	tr.	0.09	—	—	0.11	—	—	0.15	98.35	1975CHWXbT:12
Sickle-Shaped objects	HZ280	90.32	—	—	4.18	—	0.09	3.74	0.20	—	tr.	1.28	0.22	100.09	1975CHWXbT:13
Sickle-Shaped objects	HZ281	86.42	—	—	5.66	—	0.06	5.24	tr.	—	tr.	1.65	0.20	99.32	1975CHWXbT:14
Sickle-Shaped objects	HZ282	97.63	tr.	—	—	—	tr.	—	—	0.11	—	—	0.30	98.19	1975CHWXbT:15
Sickle-Shaped objects	HZ274	96.67	0.14	—	—	—	—	—	—	0.08	—	—	0.22	97.17	1975CHWXbT:6
Sickle-Shaped objects	HZ275	98.42	0.14	—	—	—	tr.	—	—	0.11	—	—	0.19	98.96	1975CHWXbT:7
Sickle-Shaped objects	HZ276	97.08	0.11	—	—	—	—	—	—	0.11	—	—	0.42	97.79	1975CHWXbT:8
Sickle-Shaped objects	HZ270	97.18	0.16	—	—	—	0.07	—	—	0.11	—	—	0.18	97.77	1975CHWXbT:9
Sickle-Shaped objects	HZ285	96.72	0.26	tr.	—	—	—	0.13	—	0.10	tr.	tr.	0.24	97.64	1979YXFT:13

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Sickle-Shaped objects	HZ284	84.56	—	tr.	0.12	0.29	0.06	—	—	0.09	0.05	0.45	8.81	94.52	1979YXFT:14
Sickle-Shaped objects	HZ262	93.82	0.18	0.20	3.21	0.23	0.08	0.22	—	0.09	0.14	—	0.32	98.51	1980CHLTT:23
Sickle-Shaped objects	HZ268	91.02	—	—	4.46	0.26	0.07	0.31	—	0.09	0.11	tr.	0.32	96.68	1980CHLTT:28
Sickle-Shaped objects	HZ264	97.60	0.46	0.14	—	—	0.14	0.05	—	0.10	0.08	—	0.22	98.82	1980CHLTT:34
Sickle-Shaped objects	HZ265	97.03	—	0.06	0.86	tr.	0.07	0.06	—	0.10	0.10	—	0.39	98.73	1980CHLTT:45
Sickle-Shaped objects	HZ267	91.27	0.94	0.68	3.51	0.19	tr.	0.29	—	0.09	0.20	0.06	0.21	97.48	1980CHLTT:46
Sickle-Shaped objects	HZ283	93.35	3.62	0.54	0.06	tr.	0.14	—	—	0.10	0.11	0.12	0.19	98.29	1980CHLTT:50
Sickle-Shaped objects	HZ266	94.59	—	—	1.78	0.13	0.14	0.11	—	0.11	0.05	0.31	0.22	97.46	1980CHLTT:51
Sickle-Shaped objects	HZ269	93.89	0.20	1.52	0.33	0.06	0.12	0.09	—	0.10	0.27	—	0.20	96.77	1980CHLTT:53
Sickle-Shaped objects	HZ255	51.14	tr.	38.83	0.28	3.24	0.15	—	—	—	5.33	0.15	0.82	100.00	1980CHLTT:55
Sickle-Shaped objects	HZ256	94.78	—	0.53	0.72	tr.	0.07	tr.	—	0.10	0.06	0.46	0.26	97.07	1980CHLTT:65
Sickle-Shaped objects	HZ258	97.21	—	—	—	—	tr.	0.16	—	0.10	tr.	—	0.22	97.80	1981CHLTT:11
Sickle-Shaped objects	HZ260	96.93	0.47	0.41	—	—	0.10	0.05	0.06	0.10	0.07	—	0.47	98.72	1981CHLTT:12
Sickle-Shaped objects	HZ259	93.57	2.90	0.80	0.30	0.05	0.16	tr.	—	0.09	0.19	0.07	0.29	98.45	1981CHLTT:13
Sickle-Shaped objects	HZ261	94.17	0.72	1.37	0.27	0.05	0.13	tr.	—	0.09	0.71	—	0.65	98.24	1981CHLTT:14
Sickle-Shaped objects	HZ327	70.18	—	—	13.02	tr.	—	5.01	1.77	—	—	5.22	5.50	100.80	1981CHLTT:17
Sickle-Shaped objects	HZ277	92.41	—	—	2.46	—	0.13	2.70	0.07	—	—	1.47	0.23	99.52	1981CHLTT:18
Sickle-Shaped objects	HZ278	98.70	—	—	—	—	0.09	—	—	0.11	—	—	0.20	99.17	1981CHLTT:20
Sickle-Shaped objects	HZ279	76.12	—	—	9.86	—	0.27	10.52	0.32	—	—	2.23	0.53	99.89	1981CHLTT:22
Sickle-Shaped objects	HZ257	96.10	—	—	—	—	0.06	0.06	—	0.09	0.08	0.23	0.27	96.94	1981CHLTT:3
Zhang scepter	HZ288	89.84	0.09	—	0.79	4.33	—	0.18	—	0.06	—	0.50	0.96	96.80	1964CHWbT:21
Zhang scepter	HZ286	72.45	tr.	—	0.90	9.53	—	—	—	0.06	tr.	0.82	12.11	95.98	1964CHWbT:22
Zhang scepter	HZ289	78.79	0.15	tr.	2.71	1.52	—	2.27	0.09	tr.	tr.	1.17	9.09	95.91	1964CHWbT:23

Objects	Lab No.	Composition (% wt)												Archaeological No.	
		Cu	Sn	Pb	As	Sb	Bi	Ni	Fe	Zn	Ag	S	O		Total
Zhang scepter	HZ287	82.63	3.73	5.95	0.17	tr.	0.13	—	—	tr.	0.20	0.08	4.07	97.06	1964CHWbT:24
Zhang scepter	HZ295	71.88	8.64	0.28	0.21	tr.	—	—	—	0.05	0.11	0.16	15.57	96.95	1979YXFT:17
Zhang scepter	HZ290	89.45	5.16	0.30	0.20	—	—	0.09	—	0.07	0.12	0.14	1.55	97.12	1979YXFT:18
Zhang scepter	HZ328	90.45	—	—	0.22	0.31	—	—	—	0.08	tr.	0.24	6.88	98.31	1979YXFT:18
Zhang scepter	HZ291	96.18	0.98	0.24	—	—	—	—	—	0.08	tr.	—	0.30	97.88	1979YXFT:19
Zhang scepter	HZ294	95.81	1.46	0.33	—	—	—	—	—	0.09	—	—	0.22	98.00	1979YXFT:20
Zhang scepter	HZ292	96.92	tr.	—	—	—	—	—	—	0.08	tr.	—	0.38	97.52	1979YXFT:21
Zhang scepter	HZ293	96.77	—	—	—	—	—	—	—	0.08	0.05	—	0.40	97.36	1979YXFT:24