Second trimagic square

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Less than one percent of all axially symmetric trimagic squares of order 12 can be transformed into another square with different numbers in the diagonals by permutation of row or columns.
Accidentally the first known trimagic square has this property.

In March 2003 Pan Fengchu and Gao Zhiyuan used this method to create a second essentially different trimagic 12x12-square.
Here is a copy of their square from http://www.zhghf.top/china/hfweb/muti12j3c.htm :

18	17	79	19	46	102	129	52	131	113	108	56
6	20	41	86	91	49	116	115	48	121	42	135
34	63	22	76	117	8	98	119	141	64	101	27
65	94	144	23	13	71	87	136	70	72	5	90
105	31	33	142	68	106	84	45	35	2	124	95
53	120	83	78	134	133	7	38	88	36	85	15
92	25	62	67	11	12	138	107	57	109	60	130
40	114	112	3	77	39	61	100	110	143	21	50
80	51	1	122	132	74	58	9	75	73	140	55
111	82	123	69	28	137	47	26	4	81	44	118
139	125	104	59	54	96	29	30	97	24	103	10
127	128	66	126	99	43	16	93	14	32	37	89

Pan Fengchu and Gao Zhiyuan mention that the 4th powers of the entries have the same sum for each main diagonal. This is true for all axially symmetric trimagic squares.
See: Trimagic Series and their complements.pdf

See also:
Chinese website about trimagic squares of order 12:
http://www.zhghf.top/pfhf/pfhf10.htm

Miguel Amela shows how the square can be transposed from the original one:
Second Trimagic Square of Order 12