

## Supplementary Material (SM)

### Assessment of groundwater evolution and its driving factors in an intensified agricultural area: An integrated hydrochemical and machine learning approach

**Table S1** The  $w_j$  values of each ion.

Parameters	2012		2022	
	Shallow Groundwater	Deep Groundwater	Shallow Groundwater	Deep Groundwater
TDS	0.15	0.26	0.08	0.07
HCO <sub>3</sub> <sup>-</sup>	0.11	0.07	0.07	0.04
Cl <sup>-</sup>	0.16	0.14	0.13	0.13
SO <sub>4</sub> <sup>2-</sup>	0.10	0.07	0.12	0.09
Na <sup>+</sup>	0.09	0.07	0.10	0.10
Mg <sup>2+</sup>	0.07	0.11	0.06	0.11
K <sup>+</sup>	0.11	0.09	0.11	0.05
Ca <sup>2+</sup>	0.13	0.08	0.09	0.11
NO <sub>3</sub> <sup>-</sup>	0.08	0.12	0.25	0.28