

# Phenol-rich fulvic acid as a water additive enhances growth, reduces stress, and stimulates the immune system of fish in aquaculture

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# Supplement

Table S1: Standard and reference fulvic acids from international humic substances society (IHSS) <http://humic-substances.org/acidic-functional-groups-of-ihss-samples/>; <http://humic-substances.org/13c-nmr-estimates-of-carbon-distribution-in-ihss-samples/> and aquatic fulvic acids from rivers <sup>74</sup>

| Fulvic Acid              | Phenol content % | Aromatic content % | Reference     |
|--------------------------|------------------|--------------------|---------------|
| Suwannee River           | 2.91-2.84        | 24-22              | IHSS          |
| Elliot Soil I            | nd               | 30                 | IHSS          |
| Elliot Soil II           | 2.27             | nd                 | IHSS          |
| Pahokee Peat I           | 2.33             | 34                 | IHSS          |
| Suwannee River           | 3.11             | nd                 | IHSS          |
| Pahokee Peat             | 1.78             | nd                 | IHSS          |
| Nordic Lake              | 3.18             | 31                 | IHSS          |
| Missouri River FA        |                  | 20.4               | <sup>74</sup> |
| Yakima River FA          |                  | 24.3               | <sup>74</sup> |
| Ohio River FA            |                  | 24.3               | <sup>74</sup> |
| Minnesota groundwater FA |                  | 12.6               | <sup>74</sup> |