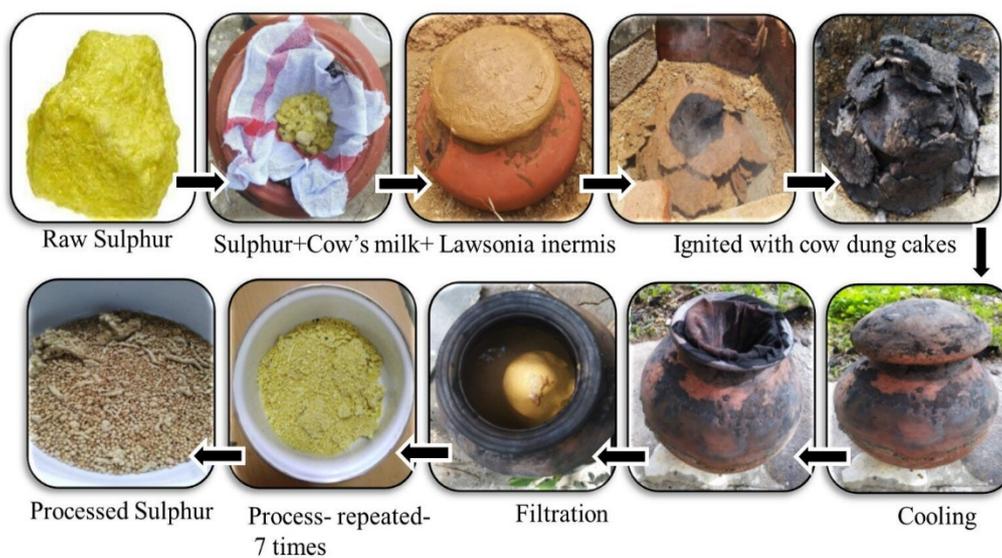


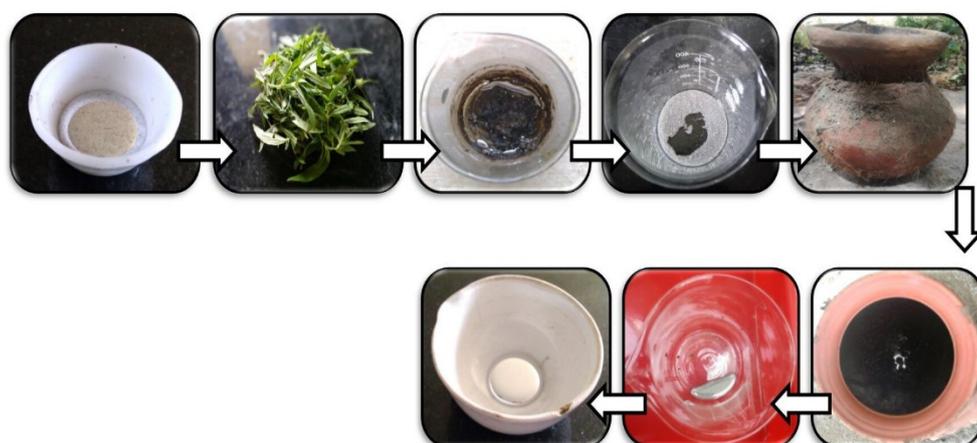
## Analytical insights into detoxification process and characterization of a traditional metallopharmaceutical formulation

Malarvizhi K,<sup>a</sup> Vedha Hari B N,<sup>a,b</sup> Rajalakshmi P,<sup>c</sup> Devaraj S,<sup>d</sup> Ramyadevi Durai<sup>\*a</sup>

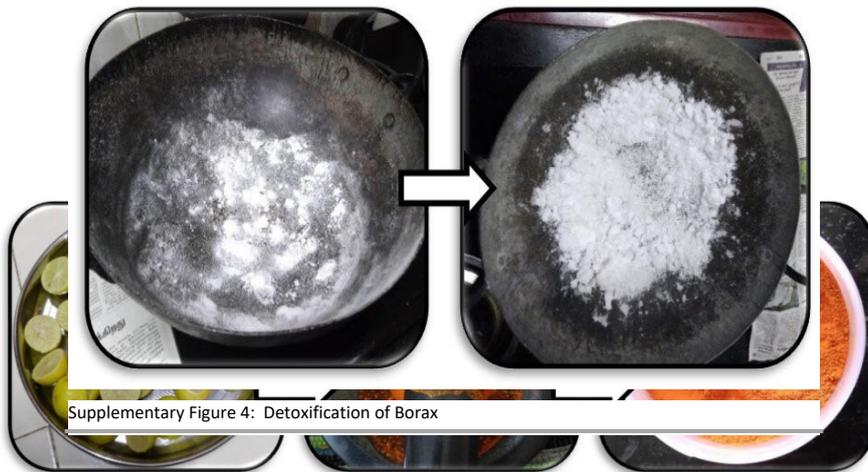
### Supplementary Figures



Supplementary Figure 1: Detoxification of Sulphur



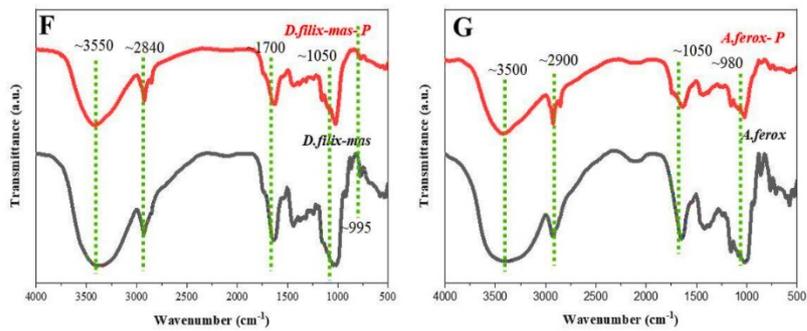
Supplementary Figure 2: Detoxification of Mercury



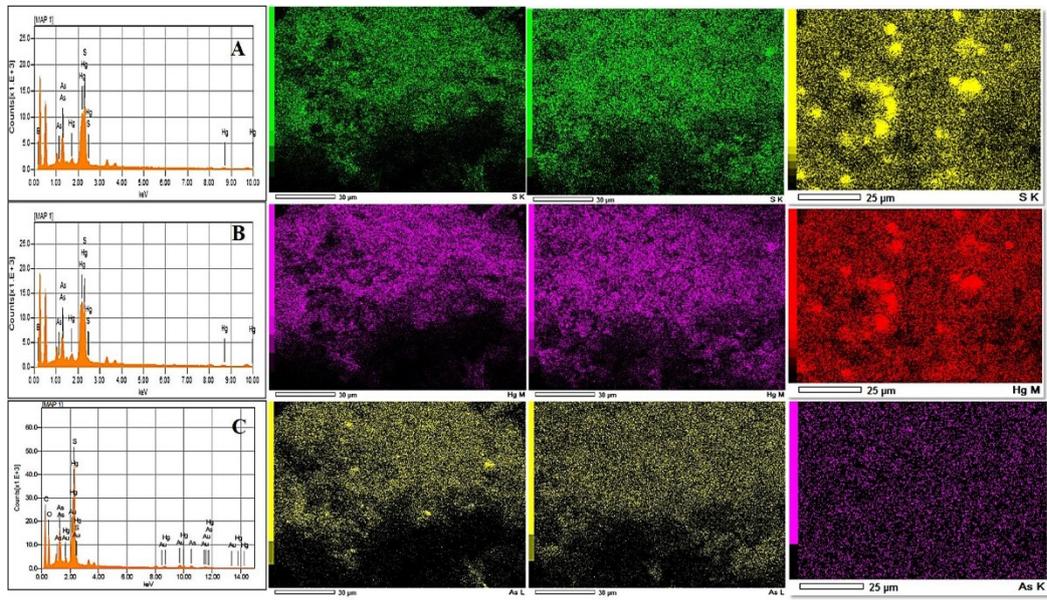
Supplementary Figure 3: Detoxification of Red orpiment

---

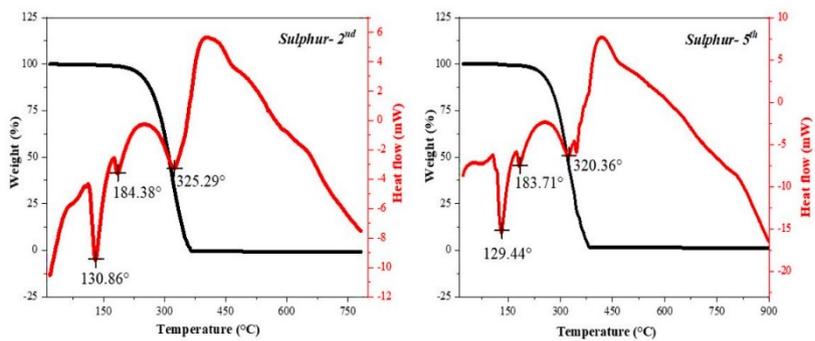




Supplementary Figure 6: FTIR spectra of *D. filix-mas* and *A. ferox*



Supplementary Figure 7: EDAX and Elemental distribution of *Sivanar Amirtham*



Supplementary Figure 8: TG-DSC analysis for the intermittent stages of Sulphur (2<sup>nd</sup> and 5<sup>th</sup> stage)

---

**Supplementary Table 1: Determination of lactose content in milk by Lane-Eynon method**

---

| <b>Milk from processing stages</b> | <b>Lactose content (%)</b> |
|------------------------------------|----------------------------|
| Fresh Cow's Milk                   | 10.22 ± 0.45               |
| 1 <sup>st</sup> stage              | 5.84±0.09                  |
| 2 <sup>nd</sup> stage              | 4.98±0.01                  |
| 3 <sup>rd</sup> stage              | 4.92±0.04                  |
| 4 <sup>th</sup> stage              | 4.78±0.06                  |
| 5 <sup>th</sup> stage              | 4.65±0.17                  |
| 6 <sup>th</sup> stage              | 4.61±0.10                  |
| 7 <sup>th</sup> stage              | 4.58±0.04                  |

---

**Supplementary Table 2: Particle size distribution and Zeta potential of *Kajjali* and *Sivanar Amirtham***

---

| <b>Formulation</b> | <b>Average particle size distribution (d. nm)</b> | <b>PDI</b> | <b>Zeta potential (mV)</b> |
|--------------------|---|------------|----------------------------|
| KF                 | 284   | 0.301      | -21.2                      |
| KC                 | 348   | 0.401      | -15.2                      |
| SAM B1             | 1364  | 0.538      | -20.3                      |
| SAM B2             | 2358  | 0.152      | -19.9                      |
| SAM B3             | 1640  | 0.248      | -18.4                      |
| SAM C              | 743.7   | 0.833      | -8.60                      |

---

**Supplementary Table 3: BET analysis of *Sivanar Amirtham* formulations**

---

| <b>Parameter/<br/>Formulation</b> | <b>SAM B1</b> | <b>SAM B2</b> | <b>SAM B3</b> | <b>SAM C</b>  |
|-----------------------------------|---------------|---------------|---------------|---------------|
| Surface area (m <sup>2</sup> /g)  | 2.8749±0.1378 | 3.9363±0.0387 | 4.8828±0.1655 | 1.6021±0.0774 |
| Average particle size<br>(nm)     | 2087.0399     | 1524.2805     | 1228.7908     | 3745.1695     |