

## **Additional file 1. Determination of extracts concentration**

Realistic concentrations of extracts were determined considering the volume of water from rainfall that would pass through a surface area of live material equivalent to the area of a tray used in the greenhouse experiment (Orr et al. 2005). Water volume received in that surface ( $60\text{ cm} \times 40\text{ cm} = 2400\text{ cm}^2$ ) was calculated considering average annual rainfall in the study site ( $367\text{ mm}\cdot\text{year}^{-1}$ ; Zuera ‘Aspasa’ meteorological station, 1973-2012 period; source: Gobierno de Aragón, <http://opendata.aragon.es>). Then, fresh leaves covering  $2400\text{ cm}^2$  of soil surface in the field were collected from five individuals of *C. clusii* and consequently fresh biomass was weighed using a 0.01 g precision balance. Thus, leaf extract concentration was determined using mean biomass of leaves per individual (81.19 g; Table S1) and mean water volume passing through a surface of  $2400\text{ cm}^2$  in the field (88.08 l). The resulting mass concentration of leaf extracts under natural conditions was approximately  $1\text{ g}\cdot\text{l}^{-1}$ . We formulated root extracts to the same volumetric ratio as leaf extracts, considering that below-ground material occupies the same surface than above-ground material in *C. clusii* (Guerrero-Campo 1998). Roots were lighter than leaves, therefore, the resulting mass concentration in root extracts was lower than in leaf extracts.

**Table S1.** Fresh weight of leaves collected from five individuals of *C. clusii* covering in natural communities.

| Individual  | Plant height (cm) | Leaves biomass (g) |
|-------------|-------------------|--------------------|
| Cistus 1    | 54                | 48.34              |
| Cistus 2    | 72                | 99.83              |
| Cistus 3    | 60                | 91.44              |
| Cistus 4    | 45                | 62.67              |
| Cistus 5    | 43                | 103.66             |
| <b>Mean</b> | 54.8              | 81.19              |

## References

- Guerrero-Campo J (1998) *Respuestas de la vegetación y de la morfología de las plantas a la erosión del suelo: Valle del Ebro y Prepirineo aragonés*. Consejo de Protección de la Naturaleza de Aragón.
- Orr SP, Rudgers JA, Clay K (2005) Invasive plants can inhibit native tree seedlings: Testing Potential Allelopathic Mechanisms. *Plant Ecology* **181**:153–165