

CMI Summerschool 2012 / Course Schicho  
Exercises Part 4

**Exercise 1**(easy). Let  $(W, \emptyset)$  be a habitat. Let  $I \subset K[W]$  be an ideal. Let  $m > 0$  be an integer. Show that the ideal-type singularities  $(I, m + 1)$  and  $(\Delta(I), m)$  have the same singular set.

**Exercise 2**(hard). Prove the inclusion

$$\text{Transform}(\text{Closure}(A)) \subseteq \text{Closure}(\text{Transform}(A))$$

for transforms along blowups in the singular set of  $A$  (which is also the singular set of  $\text{Closure}(A)$ ).