Esercizio 1. Prove that the following are equivalent

1. T has weak elimination of imaginaries;
2. every $\mathcal{A} \in \mathfrak{U}^{\mathrm{eq}}$ definable over $\mathrm{acl}A$ and over $\mathrm{acl}B$ is definable over $\mathrm{acl}A \cap \mathrm{acl}B$.

Esercizio 2. Let M be a graph. A star in M is a subgraph whose edges all share a common vertex. We say that a coloring of the edges of M is locally finite if there is a k such that every star has at most k colors. Assum M has the property that for every finite $A \subseteq M$ there is a $c \in M$ such that $A \subseteq r(c, \mathfrak{U})$. (This holds in particular when M is a random graph.) Prove that for every locally finite coloring of the edges M has an infinite monochromatic complete subgraph.