Definition 1. *Let $(H, \mathcal{T})$ be a Σ-span in $(G, \mathcal{T}^*)$. For $v \in V(G) \setminus V(H)$, a* horn *at v of cardinality σ and breadth θ is a set of paths $P_1, \ldots, P_\sigma$ intersecting only in their common endpoint v, such that*

- *for each i, $V(P_i) \cap V(H)$ consists only of the other endpoint v_i of P_i, and*
- *$d(v_i, v_j) \geq \theta$ for every $i \neq j$.*

Definition 2. *An* animal of strength (θ, σ) with χ horns and δ hairs *is $(H, \mathcal{T}, X, Y)$, where*

- *$(H, \mathcal{T})$ is a Σ-span in $(G, \mathcal{T}^*)$ of order at least θ,*
- *$X \subseteq V(G) \setminus V(H)$, $|X| = \chi$, and there is a horn of cardinality σ and breadth θ at each vertex of X,*
- *$Y \subseteq V(H)$, $|Y| = \delta$ and for each $y \in Y$, there exists an H-path in $G - X$ joining y to some vertex v with $d(y, v) \geq \theta$, and*
- *for every distinct $y_1, y_2 \in Y$, we have $d(y_1, y_2) \geq \theta$.*

Definition 3. *Let $(H, \mathcal{T})$ be a Σ-span in $(G, \mathcal{T}^*)$ and let $Y \subseteq V(H)$. A γ-envelope around Y is a set $\{\Lambda_y : y \in Y\}$, where*

- *Λ_y is a γ-zone around y,*
- *$\Lambda_{y_1} \cap \Lambda_{y_2}$ are disjoint for $y_1 \neq y_2$, and*
- *the drawing $H \cap (\Sigma \setminus \bigcup_y \Lambda_y)$ is rigid.*

Lemma 1 (8.1)**.** *$\forall \Sigma, \delta, \phi, \psi \exists \gamma, \theta$ such that if*

- *$(H, \mathcal{T})$ is a Σ-span in $(G, \mathcal{T}^*)$ of order θ, and*
- *Y is a subset of $V(H)$ with $|Y| = \delta$ and $d(y_1, y_2) = \theta$ for every distinct $y_1, y_2 \in Y$,*

then either

1. *there exists a $(\Sigma + \text{handle})$-span of order ϕ in $(G, \mathcal{T}^*)$, or*
2. *there is an H-path in G joining s with t such that $d(s, t) \geq \psi$ and $d(s, y) \geq \psi$ for each $y \in Y$, or*

3. *there is a γ-envelope $\{\Lambda_y : y \in Y\}$ such that if $H' = H \setminus \bigcup_y \Lambda_y$, then there exists a set $Z \subseteq V(G) \setminus V(H')$ with $|Z| \leq \frac{1}{2}\delta^2\phi^2$ that intersects every H'-path in G with ends s, t such that $d'(s,t) \geq 2\psi$.*

Lemma 2 (8.3)**.** *$\forall \Sigma, \tau, \chi, \delta, \lambda, \zeta, \psi \exists \theta$ such that if $(H, \mathcal{T}, X, Y)$ is an animal in $(G, \mathcal{T}^*)$ of strength $(\theta, \zeta+\tau)$ with χ horns and δ hairs and $Z \subseteq V(G) \setminus V(H)$ with $X \subseteq Z$ and $|Z| \leq \zeta$, then either*

1. *there is an animal with χ horns and $\delta + 1$ hairs of strength (ψ, τ), or*
2. *there is an H-path in $G - Z$ with ends s_1 and s_2 and distinct $y_1, y_2 \in Y$ with $d(s_1, y_1), d(s_2, y_2) \leq \psi$, or*
3. *$(H, \mathcal{T})$ is a $(\lambda, 2\psi)$-level Σ-span of order $\theta - |Z|$ in $G - Z$.*

Lemma 3 (7.1)**.** *$\forall \Sigma, \tau, \chi, \delta, \lambda, \theta', \phi, \psi \exists \theta, \sigma$ such that if if $(H, \mathcal{T}, X, Y)$ is an animal in $(G, \mathcal{T}^*)$ of strength (θ, σ) with χ horns and δ hairs, then either*

1. *there exists a $(\Sigma +$ handle$)$-span of order ϕ in $(G, \mathcal{T}^*)$, or*
2. *there exists an animal in $(G, \mathcal{T}^*)$ of strength (ψ, τ) with χ horns and $\delta + 1$ hairs, or*
3. *there exists $Z \subseteq V(G)$ with $|Z| \leq \chi + \frac{1}{2}\delta^2\phi^2$ and a $(\lambda, 2\psi)$-level Σ-span of order θ' in $G - Z$.*

Lemma 4 (6.3)**.** *$\forall \Sigma, p, \tau, \chi, \psi \exists \theta, \delta$ such that there is an animal in $(G, \mathcal{T}^*)$ of strength $(\theta, \tau + 1)$ with χ horns and δ hairs and $\mathcal{T}^*$ does not control a K_p-minor in G, then there exists an animal in $(G, \mathcal{T}^*)$ of strength (ψ, τ) with $\chi + 1$ horns and no hairs.*

Lemma 5 (5.5)**.** *$\forall \Sigma, p \exists \theta$ such that if there exists an animal in $(G, \mathcal{T}^*)$ of strength $(\phi, 4p(p-1))$ with $\frac{1}{2}p(p-1)$ horns and no hairs, then $\mathcal{T}^*$ controls a K_p-minor in G.*

Theorem 6. *$\forall L \exists \kappa, \rho, \zeta, \theta$ such that if $\mathcal{T}$ is a tangle of order θ in G that does not control an L-minor, then there exists $Z \subseteq V(G)$ of size at most ζ and a $\mathcal{T} \setminus Z$-central segregation of $G - Z$ of type (κ, ρ) with a proper arrangement in a surface in that L cannot be drawn.*