Graph Pattern	Hop Type	Expressions in $\mu-RA$
F m K	One Hop And Branch	$\widetilde{\pi}_{m}\left(ho_{f_{sl}}^{m}\left(F\right)\bowtie ho_{\mathcal{P}_{sl}}^{m}\left(K ight)\right)$
F m F		
ĮK		~ (m (E) , m (E) , m (W)
	Two hops and a branch	$\widetilde{\pi}_m\left(\rho^m_{f_{id}}(F)\bowtie \rho^m_{p_{id}}(F)\bowtie \rho^m_{p_{id}}(K)\right)$
K K		
	Three Hops And Branch	$\widetilde{\pi}_{m}\left(\rho_{f_{sd}}^{m}\left(\widetilde{\pi}_{m}(\rho_{f_{sd}}^{m}\left(F\right)\bowtie\rho_{p_{sd}}^{m}\left(F\right)\right)\bowtie\rho_{p_{sd}}^{m}\left(F\right)\bowtie\rho_{p_{sd}}^{m}\left(K\right)\right)$
F m F n F		
	Three Hops And Branch	$\widetilde{\pi}_{m,n}\left(\rho_{f_{id}}^{n}\left(\rho_{f_{jd}}^{m}(F)\bowtie\rho_{p_{id}}^{m}(F)\right)\bowtie\rho_{f_{id}}^{n}(F)\bowtie\rho_{p_{id}}^{m}(K)\right)$
F m F n F		. ,
	Three Hops And Branch	$\widetilde{\pi}_{m,n}\left(\rho_{f_{sl}}^{m}(F)\bowtie\rho_{p_{sl},f_{sl}}^{m,n}(F)\bowtie\rho_{p_{sl}}^{n}(F)\bowtie\rho_{p_{sl}}^{m}(K)\right)$
F m F n F	•	· ('B' · ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '
K K		
	Three Hops And Two Branches	$\widetilde{\pi}_{m,n}\left(\rho_{f_{id}}^{m}\left(F\right)\bowtie\rho_{p_{id}}^{m}\left(\rho_{f_{id}}^{n}\left(F\right)\right)\bowtie\rho_{p_{id}}^{m}\left(\rho_{k_{id}}^{k}\left(K\right)\right)\bowtie\rho_{p_{id}}^{n}\left(F\right)\bowtie\rho_{p_{id}}^{n}\left(F\right)$

Graph Pattern	Нор Туре	Expressions in $\mu-RA$
-		
F m F		
K		
k	Star (Isomorphism based semantics)	$\widetilde{\pi}_{m}\left(\sigma_{k<>k_{id}}\left(\rho_{f_{id}}^{m}\left(F\right)\bowtie\rho_{p_{id}}^{m}\left(F\right)\bowtie\rho_{p_{id}}^{m}\left(K\right)\bowtie\rho_{p_{id}}^{m}\left(\rho_{k_{id}}^{k}\left(K\right)\right)\right)\right)$
κ		
F m F		
↓K		
k	Star (Homorphism based semantics)	$\widetilde{\pi}_{m}\left(\rho_{f_{id}}^{m}\left(F\right)\bowtie\rho_{p_{id}}^{m}\left(F\right)\bowtie\rho_{p_{id}}^{m}\left(K\right)\bowtie\rho_{p_{id}}^{m}\left(\rho_{k_{id}}^{k}\left(K\right)\right)\right)$