

Electronic Supplementary Information

The fluorescence properties of tiara like structural thiolated palladium clusters

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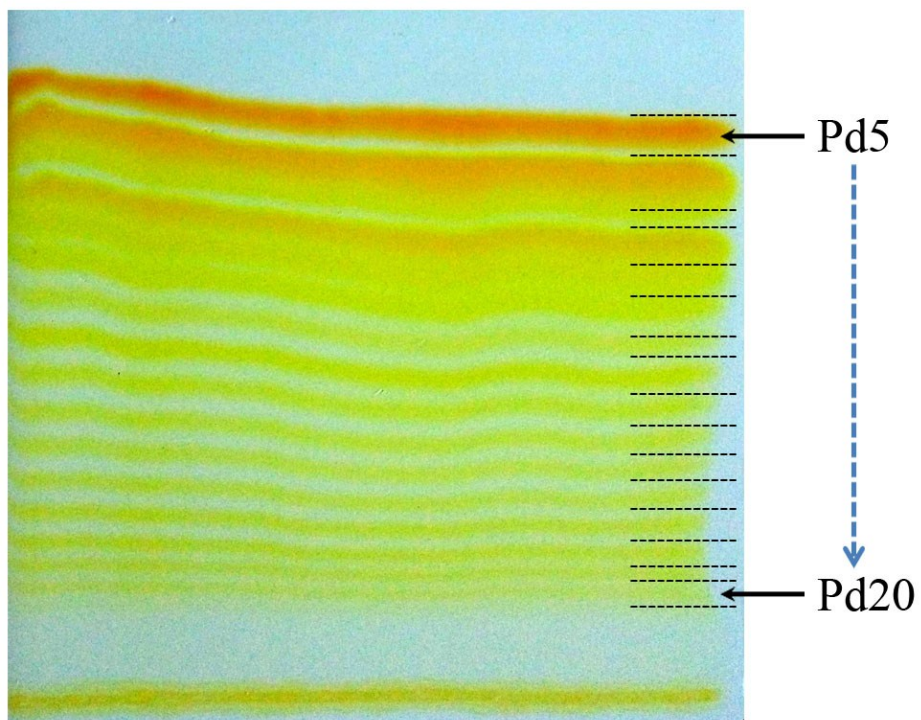


Figure S1 the photograph of PTLC after isolated Pd_n nanoclusters with CH₂Cl₂ and *n*-hexane.

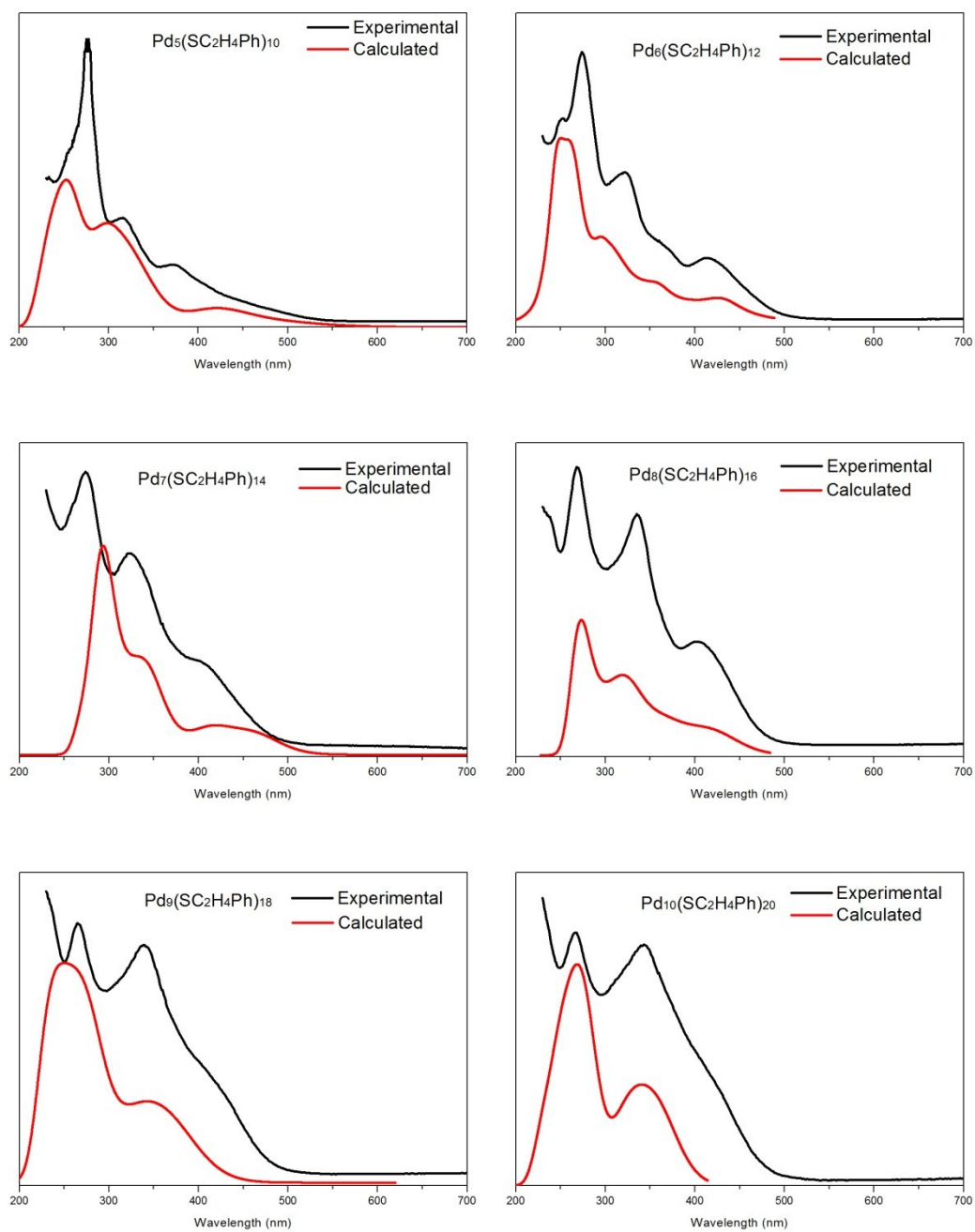


Figure S2 the experimental and calculated optical spectra of Pd_n(SR)_{2n} (5 ≤ n ≤ 10).

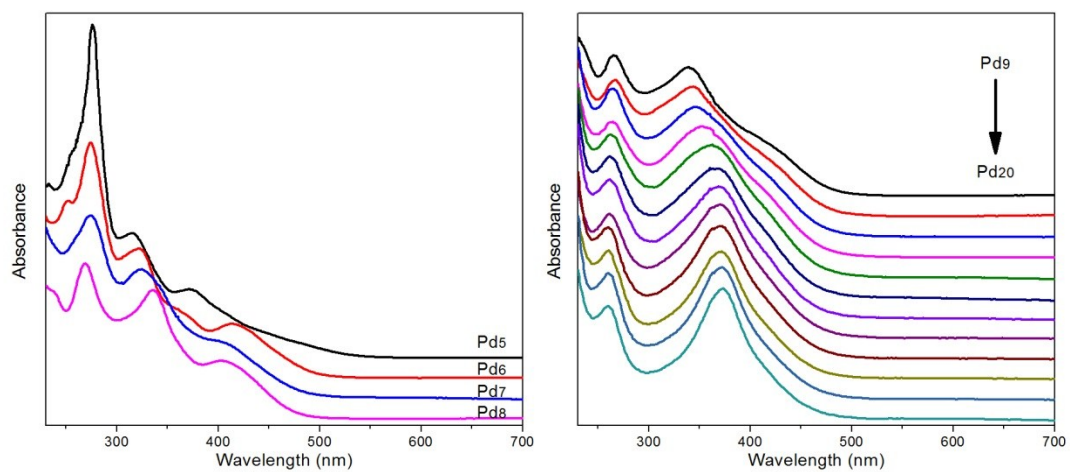


Figure S3 the UV/vis absorbance spectra of Pd_n nanoclusters dissolved in CH₂Cl₂.

Table S1 Crystal data and structure refinement for $[\text{Pd}(\text{SC}_2\text{H}_4\text{Ph})_2]_6 \cdot 2\text{CH}_3\text{COCH}_3$

Empirical formula	$\text{C}_{51}\text{H}_{60}\text{OPd}_3\text{S}_6$
Formula weight	1200.55
Temperature/K	289(2)
Crystal system	triclinic
Space group	P-1
a/Å	11.3964(2)
b/Å	12.8541(4)
c/Å	18.4749(6)
α /°	104.222(3)
β /°	99.280(2)
γ /°	90.295(2)
Volume/Å ³	2586.28(13)
Z	2
$\rho_{\text{calc}}/\text{g}/\text{cm}^3$	1.542
μ/mm^{-1}	10.853
F(000)	1216.0
Crystal size/mm ³	0.320 × 0.310 × 0.240
Radiation	Cu K α (λ = 1.54184 Å)
2 θ range for data collection/°	7.87 to 139.82
Index ranges	-13 ≤ h ≤ 8, -15 ≤ k ≤ 15, -22 ≤ l ≤ 22
Reflections collected	20139
Independent reflections	9547 [R_{int} = 0.0482, R_{sigma} = 0.0541]
Data/restraints/parameters	9547/26/550
Goodness-of-fit on F ²	1.068
Final R indexes [$I > 2\sigma(I)$]	$R_1 = 0.0451$, $wR_2 = 0.1225$
Final R indexes [all data]	$R_1 = 0.0474$, $wR_2 = 0.1258$
Largest diff. peak/hole / e Å ⁻³	1.51/-1.42