**Ruthenium(0) Nanoclusters Stabilized by Nanozeolite Framework; Isolable,
Reusable, and Green Catalyst for the Hydrogenation of Neat Aromatics under Mild
Conditions with the Unprecedented Catalytic Activity and Lifetime**

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Table S-1 (corrected). The top seventeen catalysts in benzene hydrogenation at room temperature^(a).

		conditions		TTO ^(b)	TOF ^(c)	Reference
entry	precatalyst	[t (°C) / P _{H2} / solvent]				
1	[RhCl(1,5-hexadiene)] ₂	20 °C / 1 atm / water	-	-	1	
2	[Rh(COD)Cl] ₂	25 °C / 1 atm / neat	-	48	2	
3	[Rh(COD)H] ₄	25 °C / bubbling / neat	-	-	3	
4	RhCl ₃ ·3H ₂ O	20 °C / 1 atm / water	-	171	4	
5	RhCl ₃ ·3H ₂ O	20 °C / 1 atm / water	-	270	5	
6	RhCl ₃ ·3H ₂ O	20 °C / 1 atm / water	300	240	6	
7	[(Cp*)Zr(CH ₃) ₃]@Al ₂ O ₃	25 °C / 1 atm / neat	-	2880	7	
8	IrCl ₃	25 °C / 2.7 atm / neat	-	1125	8	
9	RhCl ₃ ·3H ₂ O	22 °C / 1 atm / hexane	-	1800	9	
10	RuCl ₃ ·3H ₂ O	20 °C / 30 atm / neat	-	800	10	
11	RhCl ₃ ·3H ₂ O	20 °C / 1 atm / water	-	340	11	
12	RuCl ₃	20 °C / 1 atm / water	-	72	12	
13	RuCl ₃	20 °C / 2.1 atm / water	-	1800	13	
14	Rh/AlO(OH)	25 °C / 1 atm / hexane	-	2100	14	
15	Intrazeolite Ru(0) NC's	22 °C / 2.7 atm / neat	2420	3120	15	
16	RhCl ₃ ·3H ₂ O	25 °C / 1 atm / water	-	900	16	
17	Rh(0) NC's@CNT	25 °C / 10 atm / neat	-	1038	17	
18	NFS-Ru(0)	25 °C / 2.8 atm / neat	177200	5430	this study	

(a) Selected from >1900 reports obtained by a SciFinder literature search for “benzene hydrogenation” and arranged chronologically. (b) The TTO values refer to number of mol H₂ per mol of catalyst. (c) The TOF values are in the units of (mol H₂)(mol catalyst)⁻¹h⁻¹.