Electronic Supplementary Information (ESI)

Highly active Pd-Ni nanocatalysts supported on multicharged polymer matrix

Elza D. Sultanova,[ab] Aida I. Samigullina,[a] Natalya V. Nastapova,[a] Irek R. Nizameev,[ac] Kirill V. Kholin,[ad] Vladimir I. Morozov,[a] Aidar T. Gubaidullin,[a] Vitaliy V. Yanilkin,[a] Marsil K. Kadirov,[a] Albina Y. Ziganshina*[ab] and Alexander I. Konovalov[ab]

[a.] *A. E. Arbuzov Institute of Organic and Physical Chemistry, Russian Academy of Sciences, Arbuzov str. 8, Kazan 420088, Russia. E-mail: az@iopc.ru*
[b.] *A. M. Butlerov Institute of Chemistry, Kazan Federal University, Kremlevskaya str. 18, Kazan 420018, Russia*
[c.] *Kazan National Research Technical University, K. Marx str. 10, Kazan 420111, Russia*
[d.] *Kazan National Research Technological University, Karl Marx str .68, Kazan 420015,Russia*

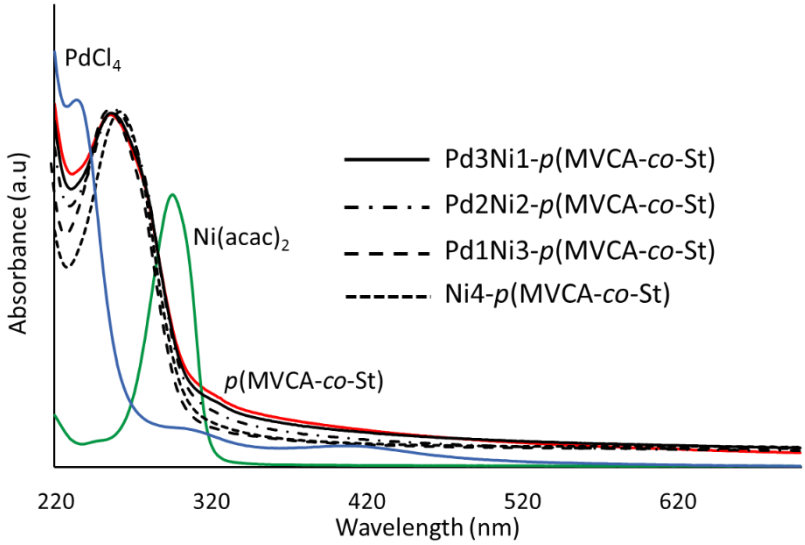

Fig. S1. UV spectra of $Ni(acac)_2$ (green); $Na_2[PdCl_4]$ (blue); *p*(MVCA-*co*-St) (red); and Pd3Ni1-*p*(MVCA-*co*-St), Pd2Ni2-*p*(MVCA-*co*-St), Pd1Ni3-*p*(MVCA-*co*-St) and Ni4-*p*(MVCA-*co*-St) (H_2O, 20 °C, *l* = 0.5 cm).

Table S1. Amount of Pd and Ni in the compositions measured by inductively coupled plasma atomic emission spectrometry (ICP-AES).[a]

	Theoretical yield		ICP-AES data, yield		Molar ratio Pd-Ni measured by ICP-AES	
	Pd, *C* (mg/l)	Ni, *C* (mg/l)	Pd, *C* (mg/l), ±10%	Ni, *C* (mg/l), ±10%	Pd	Ni
Pd3Ni1-p(MVCA-co-St)	2.3	0.42	1.78 (77%)	0.37 (88 %)	0.73	0.27
Pd2Ni2-p(MVCA-co-St)	1.52	0.84	1.31 (86 %)	0.62 (74 %)	0.54	0.46
Pd1Ni3-p(MVCA-co-St)	0.76	1.25	0.66 (87 %)	0.98 (78 %)	0.27	0.73
Ni4-p(MVCA-co-St)	-	1.68	-	1.31 (78 %)	-	1

[a]The samples solutions were diluted 70-fold before measurement

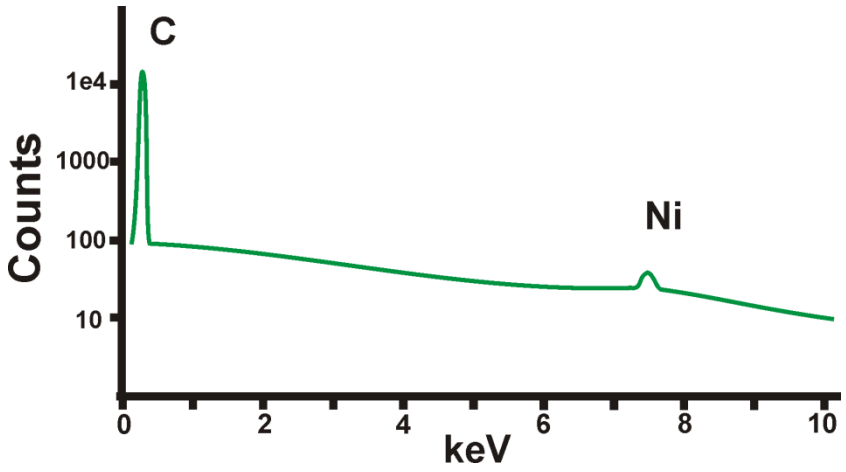

Fig. S2. EDX spectrum of Ni4-*p*(MVCA-*co*-St) after background subtraction.

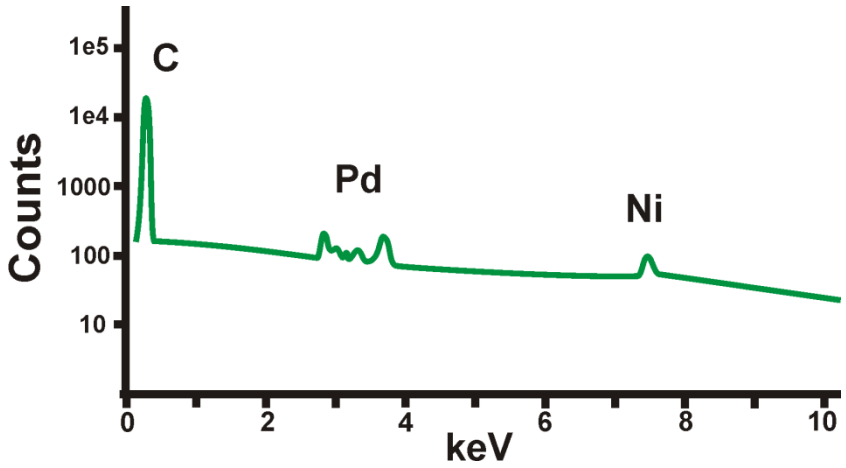

Fig. S3. EDX spectrum of Pd1Ni3-*p*(MVCA-*co*-St) after background subtraction.

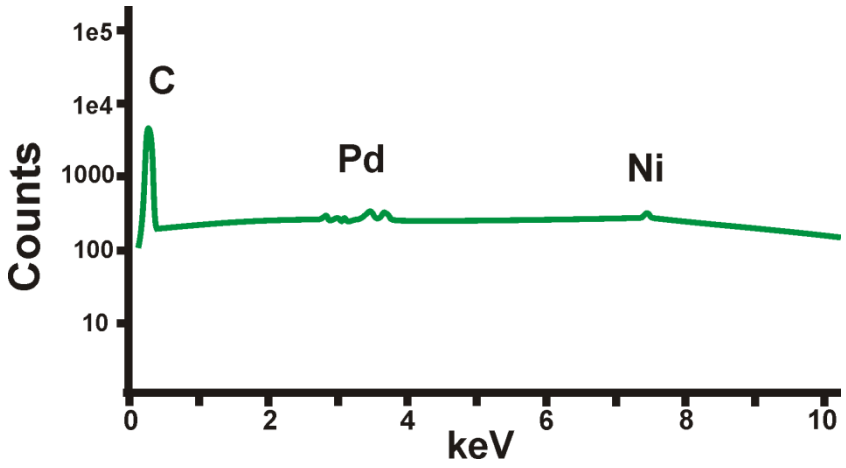

Fig. S4. EDX spectrum of Pd2Ni2-*p*(MVCA-*co*-St) after background subtraction.

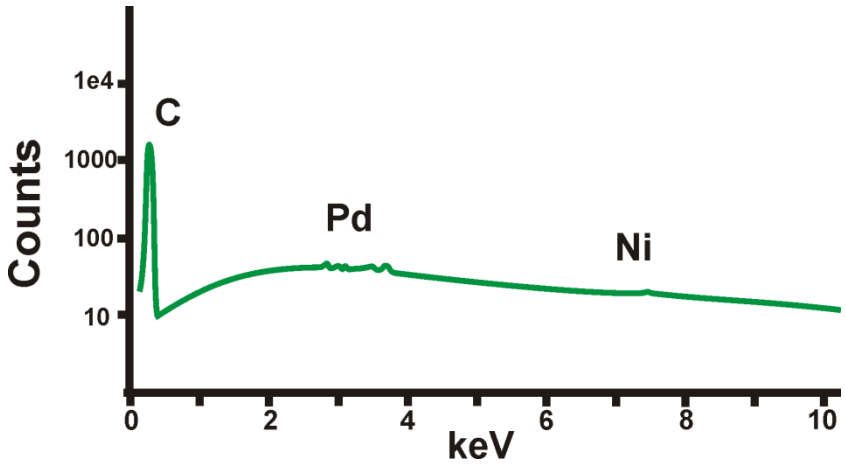

Fig. S5. EDX spectrum of Pd3Ni1-*p*(MVCA-*co*-St) after background subtraction.

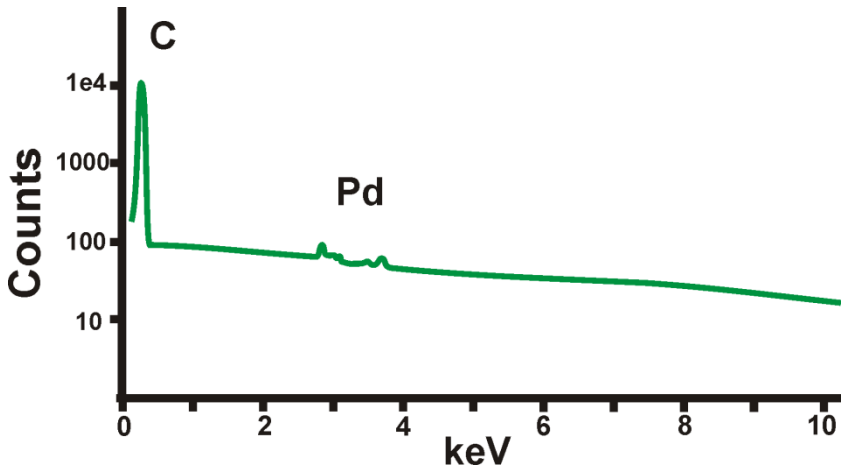

Fig. S6. EDX spectrum of Pd4-*p*(MVCA-*co*-St) after background subtraction.

Characteristic lines in the EDX spectra:

Ni lines: Kα1 = 7.478 keV, Kα2 = 7.461 keV (one averaged line is observed);

Pd lines: Lα1 = 2.84 keV, Lβ1 = 2.99 keV, Lβ3 = 3.07 keV, Lγ1 = 3.32 keV, Lγ3 = 3.56 keV