which, according to the data of Ref. 1, is due to the stretching vibrations of the C—D bonds. This band is not observed when the sample is deuterated at room temperature or for the Pd/C deuterated catalyst.

It was established by chemical analysis that the deuterium content in the sample monotonically increases as the temperature, pressure, and the number of "sorption ⇔ desorption" cycles increase. The maximum content of deuterium, corresponding to the empirical formula C_yD_{26} (C_y is a molecule of fullerene C_{60} or C_{70}), was obtained at the pressure of 2.5 MPa and by a 10-fold repetition of "heating to 673 K (1 h) ⇔ cooling to 293 K (1 h)".

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A new route for decomposition of the platinum(IV) β-ammonioethyl complex: elimination of the β-ammonium group

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It has been established previously[1] that in aqueous chloride solutions the platinum β-ammonioethyl complex $K[Pt(CH_2CH_2NH_3^+)Cl_5]$ (**1**) decomposes *via* two routes. In an acidic medium when the nitrogen atom of the complex is quaternized ($pK_a \approx 8.2$), S_N2 attack by the external nucleophile Y^- on the α-C atom occurs to form the corresponding aminoethane derivative $YCH_2CH_2NH_3^+$. In alkaline media, aziridine is formed through intrasphere reductive elimination.

We have found that in iodide solutions ([NaI] = 5.0 mol L^{-1}) at 80 °C in the presence of a phosphate buffer ($[Na_2HPO_4] = [KH_2PO_4] = 0.07$ mol L^{-1}) and K_2PtCl_4, complex **1** decomposes to yield ethylene (en). Almost no ethylene forms in the absence of Pt^{II}; the addition of K_2PtCl_6 decreases considerably the rate of the accumulation of ethylene. The values of the rate constants k_{en} determined from the equation $k_{en} = (d[en]/d\tau)_0/[(\mathbf{1})]_0$ from the initial rates of the formation of ethylene at the initial concentration of complex **1** of $1 \cdot 10^{-3}$ mol L^{-1} are the following:

Pt^{II}	Pt^{IV}	$k_{en} \cdot 10^6/s^{-1}$
mol L^{-1}		
0	0	0
0.011	0	1.20±0.04
0.03	0	6.4±0.4
0.05	0	12.9±0.3
0.1	0	36.8±2.3
0.1	0.001	3.60±0.03
0.1	0.01	0.40±0.02

The results obtained agree with Scheme 1.*

The dependence of k_{en} on $[Pt^{II}]$ is close to quadratic, which makes it possible to assume that stages *a* and *a'* are fast. The combination of these two stages involving Pt^{II}, oxidative addition (stage *a*), and complementary reduction (stage *b*), results in the formation of the platinum(II) β-ammonioethyl complex. The decomposition of $Pt^{II}CH_2CH_2NH_3^+$ by elimination of the β-ammo-

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* Acido ligands in Pt complexes were omitted.

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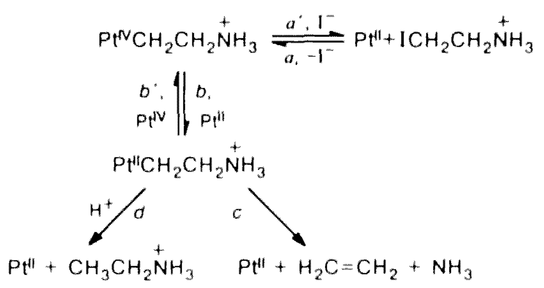
Scheme 1



nium group gives ethylene (stage *c*). The competition of reaction (*c*) and the stage of the complementary oxidation (*b*) explains the retardation effect of the Pt^{IV} additions. By analogy with the published data,[2] the reaction of protodemetallation (stage *d*) is included in Scheme 1, since the formation of ethylene is completely suppressed when 0.001 *M* $HClO_4$ is added to the reaction mixture instead of the phosphate buffer.

The discovered reaction is similar to the known (see, *e.g.*, Ref. 3) reactions of the decomposition of platinum(II) β-aminoethyl complexes in nonaqueous media. To perform this reaction, $Pt^{IV}CH_2CH_2NH_3^+$ should be preliminarily reduced to the corresponding Pt^{II} derivative, since stabilization of the resulting olefin by π-complexation is possible only in this state.

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1,2-Di(1-adamantyl)diaziridine

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It has been previously believed[1] that 1,2-di-*tert*-butyldiaziridine could not form due to steric hindrances of cyclization. However, this compound has been recently obtained, although in a low yield (6.2 %).[2]

In this work, the more sterically hindered 1,2-di(1-adamantyl)diaziridine **1** has been synthesized. Compound **1** is of interest as an object for the study of the inversion of N atoms and as a precursor of the unknown 1,2-di(1-adamantyl)hydrazine. *N,N'*-Di(1-adamantyl)formamidine hydrochloride (**2**) was isolated as the second product. The formation of compound **2** can be presented as the result of 1,2-dehydrochlorination of the common intermediate **A** or of the direct reaction of $AdNH_2$ with $CHCl_3$.

The NMR spectrum of diaziridine **1** has a record high-field shift (39.55 ppm) of the signal of the ring carbon atom for the series of known 1,2-dialkyldiaziridines (by 18.2 and 2.4 ppm compared to those of the di-Me and di-Bu^t analogs, respectively), which is explained by the maximum compression of the HCH angle of the ring.[2]

Synthesis of compounds 1 and 2. Paraform aldehyde (54 mg, 1.8 mmol), Bu^tOCl (0.18 g, 1.65 mmol), and finely powdered K_2CO_3 (1 g, 7.2 mmol) were added with rigorous

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